



Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1949, by Business News Publishing Co.

INSIDE DOPE

by GEORGE F. TAUBENECK

Fathers and Sons
Work or Starve
Our Fathers Validated a Principle
Turning Back the Clock

Fathers and Sons

In after-hours conversations with men who have made their mark, one soon learns that a great many of them are perplexed, worried, and dumbfounded by the anti-capitalism prejudices of their sons and daughters.

Having worked hard all their lives to keep their families in comfort, to educate their children, and to earn recognition, they are saddened and bewildered when their discover that their offspring neither appreciate nor respect them for their accomplishments.

Sometimes, to the successful breadwinners, it seems as if their unselfish contributions of time, talent, and money to general welfare of the nation, and to their own family well-being in particular, have been just so much wasted effort.

Communist propaganda is responsible for this miscarriage of simple justice.

America's schoolchildren have been waylaid and sidetracked by the missionaries for Collectivism. Red-tinged instructors have indoctrinated millions of teen-agers with the idea that "the Old Man," if he is successful, must surely be a buccaneer and an oppressor.

Teachers and preachers—who are notoriously underpaid, and who are themselves at the mercy of bureaucracy—shape the pliant minds of our youngsters. Being employees of the State themselves, teachers seemingly want everyone else to share their misery. Those to whom we entrust the education of our beloved babies are often bigoted, intolerant priests of the Collectivist Religion.

These misanthropic Stateists preach the gospel that Man is inherently bad; and that Government is inherently good. If one's father has provided a decent living for his family through his own efforts he should be distrusted, they insinuate. That's the sort of thing which our beloved descendants hear regularly in school, sometimes in church, and often at the movies and over the radio.

And they read it, too. Left-wing book reviewers and sold-out-to-the-enemy Eastern publishers band together to sell gullible Americans the literary output of communist "fellow travellers."

This deplorable situation is particularly bad in the textbook field. Books on political science, economics, history, and sociology which are studied in thousands of classrooms glorify "cooperation" and vilify individual enterprise. By subtle innuendo, and by unfair selection of evidence and photographs, these "slanted" textbooks insinuate that the American Way is all wrong, and the Russian Way is the Utopia of the Future.

Whatever is wrong with present-day America is charged up to Capitalism—on the red ink side of the ledger—by these textbooks (and also by some authors of best-selling fiction and radio-movie scripts).

It's easy to criticize any nation, any program, or any individual by lifting specific mistakes out of the larger context of total achievement. Because this is true, the critics always have a field day whenever they can put job-incumbents on the pan.

Because they can point out specific examples of democracy's shortcomings and injustices, the communist propagandists insist that

(Concluded on Page 6, Column 3)

Crosley Shows 8 New Models In 1949 Line

CINCINNATI—A complete new line of eight 1949 Shelvador refrigerators, featuring recessed door shelves on all models, has been announced by W. A. Blees, vice president of the Avco Mfg. Corp. and general sales manager of the Crosley Div.

Presentation meetings for distributors and wholesalers were to be held from Jan. 6 to 15 in Los Angeles; Seattle; Houston, Tex.; Kansas City, Mo.; Chicago; Atlanta; New York City; and Cincinnati.

The new line ranges in storage capacity from 7 cu. ft. to 11.2 cu. ft. Models in the "deluxe" and "master" series have a second outstanding feature—an insulated plastic self-closing door on the horizontal-type frozen food compartment.

The door, when open, forms a convenient rearranging shelf for loading the freezer compartment, which holds 50 lbs. of frozen foods, according to the company.

The deluxe models also have a special secondary refrigerating system concealed within the cabinet walls, which provides high humidity for vegetables, pastries, and the like. Self-closing, extra-thick plate glass doors provide complete visibility into this compartment.

All models except those in the "economy" series are equipped with

(Concluded on Back Page, Column 3)

Garceau Directs York Promotion Programs

YORK, Pa.—John S. Garceau, formerly with the Farnsworth Television and Radio Corp., has joined York Corp. as director of advertising and sales promotion programs for all divisions of the corporation, John R. Hertzler, vice president and general sales manager, has announced.

J. Donald Smith continues as advertising manager, Hertzler said.

Hertzler, in announcing the appointment, stated "the corporation's program of product expansion and increased sales activity, particularly in the York packaged goods line will materially benefit from Garceau's broad merchandising experience in electrical appliance, radio, and television manufacture and distribution."

Garceau served for 10 years as manager of advertising and sales promotion for both the Capehart and Farnsworth divisions of the company.

His experience during the past 15

(Concluded on Back Page, Column 2)

IN THIS ISSUE

Government technicians are testing a pair of tunnel coolers that are claimed to cut shipping time of the West Coast grape crop by 14 to 24 hours. Details of the equipment appear on page 10.

Rotogravure advertising pays big dividends, one commercial refrigerator dealer, who spent \$8,000 on that medium last year, contends. His story is on page 14.

"I question the importance of freezing meats at -40° F.," says an Armour & Co. official. He tells why on page 19.

What is the best temperature at which to hold frozen foods? A man who has given considerable study to the question tells on page 11 what he has found.

One of their number explains to refrigeration warehousemen what they should know and consider before they go out to buy a refrigeration compressor. See page 17.

Servicemen Denied Separate Status As Bargaining Unit

WASHINGTON, D. C.—Appliance servicemen are skilled workmen but are not skilled craftsmen, and therefore, "they would not constitute appropriate separate units for collective bargaining," the National Labor Relations Board ruled here recently.

The board's decision was made in a case involving an employers' group of 26 department and specialty stores in downtown St. Paul, Minn., called the Retail Employee Relations Commission, the Warehouse Employees' Union, Local 503, AFL, and the Retail Clerks' Union, Local 2, AFL.

It was based on the contention of the employers' commission that an association-wide unit representing appliance servicemen would be appropriate in view of the 10 year history of collective bargaining by the commission with the clerks' union.

The warehouse employees' union had sought last spring to represent the servicemen of two member stores in collective bargaining. The clerks' union agreed to separate bargaining for the servicemen and stated that it no longer desired to represent them.

The commission then petitioned the National Labor Relations Board to retain the clerks' union as sole bargaining agent, or to set up an association-wide unit to represent the servicemen. The warehouse employees' union asked that the petition be denied.

The board granted the union's motion and dismissed the petition.

In its decision, the board stated that appliance servicemen "are skilled workmen, but the degree of skill required to work on the different appliances varies."

"The record indicates that a minimum of six months' training or experience is necessary to work on

(Concluded on Back Page, Column 2)

500 Exhibits Set For House Show

CHICAGO—More than a third of a million people will face visitors to the first postwar National Housewares and Home Appliance Exhibit being held at the Navy Pier here from Jan. 13 to 20.

The show, at which more than 500 housewares and appliance manufacturers will display their wares, will occupy more than 144,000 sq. ft. of space, the most ever taken for the event.

The exhibits will be set up in the Pier's north and south halls, both on the same level. Each is 60 ft. wide with 18-ft. center aisles. Exhibits will stretch back along the walls for approximately 1,800 ft.

A. W. Buddenberg, executive of the National Housewares Manufacturers Association, sponsor of the event, pointed out that the Pier, being used

(Concluded on Page 29, Column 4)

Some Kramer Trenton Prices Include Freight

TRENTON, N. J.—"All list prices covering Kramer refrigeration and air conditioning equipment include freight allowed to nearest freight station within the continental United States east of the Rocky Mountains, with the exception of triple trough baffles when ordered less coils," the Kramer Trenton Co. here has announced.

Routing is to be determined by the seller, the company added.

This policy, according to the company, went into effect on Dec. 1, 1948.

Appliance Prices Steady at Mart; Some New Lines & Models Shown

Coolerator Announces Price Protection Plan for Dealers; Attendance Down as Smaller Dealers Remain at Home

CHICAGO—The opening days of the Winter Homefurnishings Markets here produced the following in the way of "news" to the refrigerator and major appliance fields:

1. Some new lines and new models, but nothing that was in the nature of a sensational departure from current styling. It was noticeable that most refrigerator lines are including 8-cu. ft. and larger models at a lower price level than has been the case since the war.

2. An announcement by Coolerator that it is setting up a price-protection plan that will extend down through the dealer level, protecting both distributors and dealers against any loss to them that would

come to them from any company announced price reduction between now and Sept. 30, 1949. (It was rumored that some other major appliance producers were in the process of setting up similar plans.)

3. There were no sensational price changes announced. Here and there a refrigerator or range model was down \$10, but there were no broad line price changes.

4. Attendance at the markets was off, but it did appear that attendance on the second and third days was steadier than in the last few years, even though the "opening day rush" which characterized other postwar years was not in evidence.

Among the principal developments in new lines and models were the five new Westinghouse refrigerator models, two Coolerator left-hand door models at no increase in price over the conventional right-hand door type, the new Amana two-door combination refrigerator and home freezer, and the new-styled Ben-Hur home freezers, marked by the effective use of color trim. New Crosley refrigerators were on the floor, but weren't being opened (a huge padlocked chain surrounded the new model) in advance of the showing to distributor meetings.

Norge was showing a wide line of new products, including restyled refrigerator models, and was putting considerable promotion emphasis on the new Norge automatic washer, now being introduced in major mar-

Stories on what some of the manufacturers showed at the marts will be found on pages 4 and 29. Space and time limitations prevent complete coverage in this issue, but next week's issue will complete the story of the marts.

keting areas throughout the country.

Admiral Corp. rounded out its refrigerator line with some new models.

Kelvinator, Frigidaire, Coolerator, and Gibson were showing models in lines that had been previously introduced. A new Laundrell automatic washer was shown.

There was only one major price break on appliances during the first days of the mart. Roberts & Manders Corp., range manufacturer, announced Jan. 4 that it was reducing prices on five electric range, and 14 gas range models. It also announced that it was increasing markups.

The Coolerator announcement on its price protection plan stated:

"Aggressive dealers cannot afford to pass up business because of insufficient stocks at the time of greatest demand. Many forehanded distributors and dealers who realize manufacturers do not have sufficient warehouse capacity to stock an ample supply for the peak season, are already beginning to build inventories in the field for summer selling."

"However, many dealers have been reluctant to develop the necessary inventory for the coming season. One of the chief factors contributing to this hesitancy has been the possibility of a price decline. Coolerator has confidence in the stability of current prices and has taken steps to protect dealers by initiating a price protection plan."

"Under this plan, Coolerator

(Concluded on Page 4, Column 1)

New Fedders Room Coolers Displayed

CHICAGO—The 1949 line of Fedders room air conditioners is being shown to dealers at a special showing in the Congress hotel here during the period Jan. 3 through 15.

New to the line are two floor-type console models, one with a 1-hp. refrigerating unit, and the other with a ¾-hp. unit.

The ¾-hp. and ½-hp. window-type air conditioners in the Fedders-Quigan Corp. 1949 line are available in walnut, bronze, or ivory.

The ¾-hp. window models are available with 115-volt or 230-volt,

(Concluded on Back Page, Column 2)

'Task Committee' In Commercial Field Meets This Week

WASHINGTON, D. C.—A representative task committee of the commercial refrigeration industry will meet this week with the director of the Industrial Equipment Div. of the National Security Resources Board to discuss the industry's status and potentialities in the event of the necessity for quick mobilization of the nation's industrial resources to meet a national emergency.

The NSRB has summoned "task committees" from various industries to set up a blueprint for an agency along the lines of the old War Production Board to get into operation

(Concluded on Back Page, Column 1)

UL Requirements on Receivers and Relief Devices Are Changed

CHICAGO—Changes in its requirements on refrigerant pressure vessels, pressure-relief devices including fusible plugs, as well as "formalizing" of its maximum normal loading tests for various types of refrigeration equipment have been announced by Underwriters' Laboratories, Inc. here.

The changes, explains UL, "are intended to bring the requirements into essential compliance with the latest revisions of ASA B9 Safety Code for Mechanical Refrigeration."

Effective date for the new requirements has not yet been announced.

Under this revision of standards UL is discontinuing its listing of refrigerant pressure vessels larger than 6-in. i.d. and larger than 5-cu. ft. gross volume. Instead, UL will require that such vessels comply with the ASME Unfired Pressure Vessel Code and be so marked.

Pressure vessels larger than 6-in. i.d. but not over 5-cu. ft. gross volume will likewise no longer be listed

(Concluded on Page 12, Column 1)

Xmas Week Dept. Store Sales Better '47 by 32%

WASHINGTON, D. C.—Abetted by two more shopping days than last year, department store sales for the week ending Dec. 25 jumped 32% above those of the same week last year, the Federal Reserve Board reported recently.

These dollar sales were from 11% (Kansas City) to 48% (New York) higher than last year.

For the four week period to Christmas, sales were up 4% over last year with increases ranging from 1% in Minneapolis, and Kansas City to 7% in Philadelphia.

Edward R. Legg Elected to ACRMA Board of Directors

WASHINGTON, D. C.—Edward R. Legg, president of the Refrigeration Corp. of America, Newark, N. J., has been elected to the board of directors of the Air Conditioning and Refrigerating Machinery Association, Inc., the Association's headquarters announced here recently. Legg is also chairman of the Ice Cream Cabinet Section of ACRMA.

Ban on Utility Appliance Sales Sought In N. Dakota

BISMARCK, N. D.—Plans to introduce in the 1949 North Dakota Legislature a bill which would prohibit public utilities from selling electrical appliances were announced by Representative W. S. Murray.

National Food Distribution Exposition Planned by Wholesale Grocers' Group

WASHINGTON, D. C.—The first national show to be devoted to all phases of the food distribution field, both in terms of products as well as supporting services, will be held at the St. Louis Auditorium, St. Louis, Mo., May 30-June 1, inclusive, under the sponsorship of the United States Wholesale Grocers Association, Harold O. Smith, Jr., executive vice president has announced.

The show, titled Food Distribution Exposition, will be held concurrently with the association's annual convention.

"It is reliably estimated that the American public last year paid more than forty billions of dollars at the retail level on food and allied products," said Smith.

"This represented by a wide margin the largest single item in consumer expenditures. Members of the trade are alert to the need for improved methods and equipment for lowering costs and improving efficiency of operation.

"The many aspects of the distribution problem will be covered at the show, not only in terms of food products, but also for efficient methods of inventory control, accounting, warehousing, billing, packaging, store modernization, fixtures, methods of transportation, materials handling, and related problems.

"Emphasis will be given to food items and other merchandise now commonly sold in groceries, chain stores and supermarkets."

The business sessions of the

convention will follow this same inclusive theme. The first morning session will be devoted to the wholesalers' warehouse and office operation, and the second morning session will consider methods wholesalers can employ to aid their retail customers along the lines of store modernization and merchandising methods.

"We anticipate the largest assembly of wholesale grocers of recent years to gather in St. Louis," Smith said.

"No previous opportunity to find under one roof all the elements for conducting business in our industry has existed. We believe this national Food Distribution Exposition will fill this need."

'Refrigerator Riot' Moves Reconditioned Trade-Ins For Buffalo Store

BUFFALO — Schwegler Bros. staged a "Refrigerator Riot" promotion in which a large collection of reconditioned electric refrigerators were offered in three price brackets—\$39, \$49, and \$59.

The used refrigerators had been collected by the store in trade-ins. At the same time, the store offered a collection of brand new floor sample refrigerators reduced in price from \$20 to \$60.

Chattanooga Appliance Sales for 12-Mos. Period Set \$10,000,000 Record

CHATTANOOGA, Tenn.—Electric appliance sales in Chattanooga, for both domestic and commercial use, for the year from November, 1947, through October, 1948, set an all time record of \$10,188,001.71, the Electric Power Board of Chattanooga reported recently.

Residential appliances, from lamp bulbs to air conditioners, accounted for \$8,315,586.98. Commercial appliance sales totaled \$1,872,414.73.

Of the residential appliances, the big three—refrigerators, ranges, and clothes washers—accounted for approximately 56% of the dollar volume. Refrigerator sales total for the year was \$1,955,408.34. The range total was \$1,683,723.85 and clothes washers, \$1,133,022.93. No dollar volume breakdown by appliance was given in the commercial field.

Unit and dollar volume on the major domestic appliances and unit volume on the commercial refrigeration and air conditioning fixtures were given as follows:

Appliance	Unit Volume	Dollar Volume
Air Conditioners		
(Domestic)	21	\$ 10,926.14
Refrigerators	7,239	1,955,408.34
Ranges	6,745	1,683,723.85
Water Heaters	3,280	380,656.99
Frozen Food		
Cabinets	383	126,183.53
Irons	502	81,039.06
Vacuum Cleaners ..	8,749	644,196.52
Clothes Washers ..	6,690	1,133,022.93
Clothes Dryers ...	132	29,346.88
Dishwashers	147	50,608.00
Air Conditioners		
(Commercial) ...	259	.....
Beverage Coolers ..	1,049	.....
Freezing Cabinets..	168	.....
Refrigerators, Coolers, Compressors, Fountains	484	.....
Water Coolers, Ice Makers	50	.....

Production Maintained as G-E Changes to '49 Models

ERIE, Pa.—The change-over to production of 1949 household refrigerator models is being made by the General Electric Co. without loss of weekly output, L. H. Miller, manager of the G-E refrigerator division, has announced.

Three 1949 models are now being shipped from Erie and are on display in retail stores across the country, Miller said. Other popular models are going into production within the next few weeks.

Changes being made in the new refrigerators are limited largely to design improvements, Miller announced. In the deluxe models, the butter conditioner has been relocated in the door, where it will be easier to use. An extra shelf will be added in the 10-cu. ft. combination refrigerator-home freezer, the last model to be put into production.

The factory here is producing all the refrigerators the materials situation permits, Miller said, and barring a serious change in materials supply, there is every indication that output will continue at its current pace.

"We look for demand for General Electric refrigerators to remain at its present unprecedented level," he added.

P. J. Crotty Heads G-E Enamel, Lacquer Division

ERIE, Pa.—P. J. Crotty has been appointed assistant superintendent of the refrigerator cabinet division of the Erie Works, General Electric Co., in charge of the enamel and lacquer division. He was formerly assistant superintendent of manufacturing.

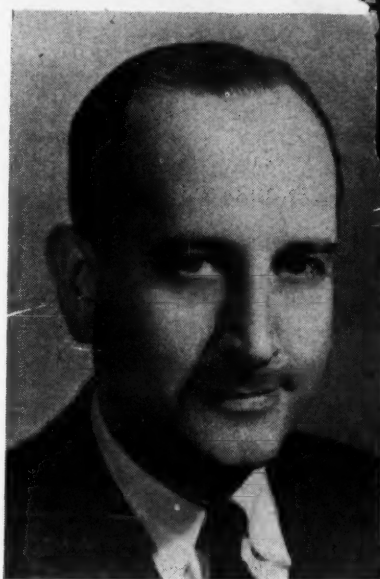
Stoddard Issues Lockrator Price List

MASON CITY, Iowa—Recommended retail prices on its 1949 line of Lockrator refrigerators, freezers, and ice cube maker have been announced by the Stoddard Mfg. Co. here.

They are as follows:

Model 13E—13-cu. ft. deluxe combination freezer refrigerator	\$397.50
Model 9E—9-cu. ft. deluxe combination freezer refrigerator	299.50
Model 8E—8-cu. ft. standard deluxe refrigerator	229.95
Model 4E—4-cu. ft. apartment refrigerator	199.95
Model 4D—4-cu. ft. table-top freezer	199.95
Model 13.5D—13½-cu. ft. upright freezer	481.00
Model 4IC3—½-hp., 21-tray ice cube maker	299.50

Sales Manager Dies



PHILIP HEDRICH

Universal Cooler of Canada Loses Hedrich

BRANTFORD, Ont., Can.—Philip Hedrich, general sales manager for Universal Cooler Co. of Canada, a division of International Detrola Corp., died here Dec. 28 following an operation for a gall bladder condition. He was 45 years old.

Hedrich had been general sales manager since the spring of 1946, having come to Brantford from the Export Sales Dept. of Nash-Kelvinator Corp. Most of his previous experience had been with Universal Cooler and C. V. Hill, however.

After several years in the refrigeration industry, chiefly with C. V. Hill, Hedrich became a Hill distributor in Columbus, Ohio, covering two states. In 1942 he joined Universal Cooler as a sales engineer, operating out of Columbus until he came to Nash-Kelvinator in September of 1945.

A member of the American Society of Refrigerating Engineers, Hedrich last March was elected a director of the Canadian Refrigeration Manufacturers Association.

He is survived by his wife, two daughters, and a son.

Buffalo Utility Allowed To Raise Water Heater Rate

NIAGARA FALLS, N. Y.—The decision permitting the Buffalo Niagara Electric Corp. to eliminate the first electric rate for water heating in Niagara Falls and Medina has been upheld by the Public Service Commission.

In its ruling, the commission has upheld a previous decision permitting the BNE to put water heating on a metered basis in the two communities. The PSC statement said that the low rate applicable to the two communities results in wasteful use of electricity and that it is "unjustly discriminatory" against consumers in the rest of the company's territory.

Thus, apparently, ends a controversy which began several months ago, when the PSC announced that it would permit the BNE to put water heating on a metered basis here.

That announcement provoked a storm of protest, and resulted in the calling of a special public hearing on the subject in Buffalo. The hearing was called after the City Council, stirred by several petitions from civic, labor, and other groups, requested a reconsideration by the PSC.

The changeover will effect an estimated 9,582 users of electric water heaters in the Niagara Falls area. At one point in the hearing, Harold I. Howell, BNE rate engineer, testified that this figure, based on a Sept. 1 survey, showed that Niagara Falls has a higher percentage of electric water heater customers than any other area in the BNE system.

You Can Depend On This Great New Line of

DELCO MOTORS

for Smooth, Dependable Power

ESPECIALLY DEVELOPED FOR REFRIGERATION AND BLOWER EQUIPMENT

Here is a complete line of Delco Motors developed especially to meet the requirements of refrigeration and blower equipment. These dependable Delco Motors deliver smooth, quiet power hour after hour, day after day.

The simple, compact design and rugged construction of these Delco Motors assure long, dependable service. Self-ventilation and highest quality insulation mean trouble-free operation. Ample lubrication is provided by the seal and shield type ball bearing . . . all internal moving parts are permanently protected by the rugged cast iron frame.

Yes, the Delco line of Refrigerator and Blower Motors is designed and engineered to do a better, more efficient job of powering your products. Write to Delco Products, Dayton, Ohio, or our nearest Sales Office for complete details.

CHECK THESE FEATURES OF THE NEW DELCO MOTOR

- ✓ The inner and outer races of the ball bearing on the end opposite the drive end are locked to give maximum thrust capacity.
- ✓ Main frames, end frames of rigid cast iron construction.
- ✓ Extended accessible mounting feet cast as unit with main frame.
- ✓ Polyphase motors have double squirrel cage rotors; die cast aluminum conductor bars and end rings.
- ✓ Single phase available from 1 h.p. through 5 h.p. and polyphase available from 1 h.p. through 7½ h.p., 1800 R.P.M.
- ✓ Close tolerance air gap between rotor and stator.



DELCO MOTORS

DELCO PRODUCTS, DIVISION OF GENERAL MOTORS CORPORATION

OFFICES: CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HARTFORD

EXTRA

FREEZ KING FLASH

EXTRA

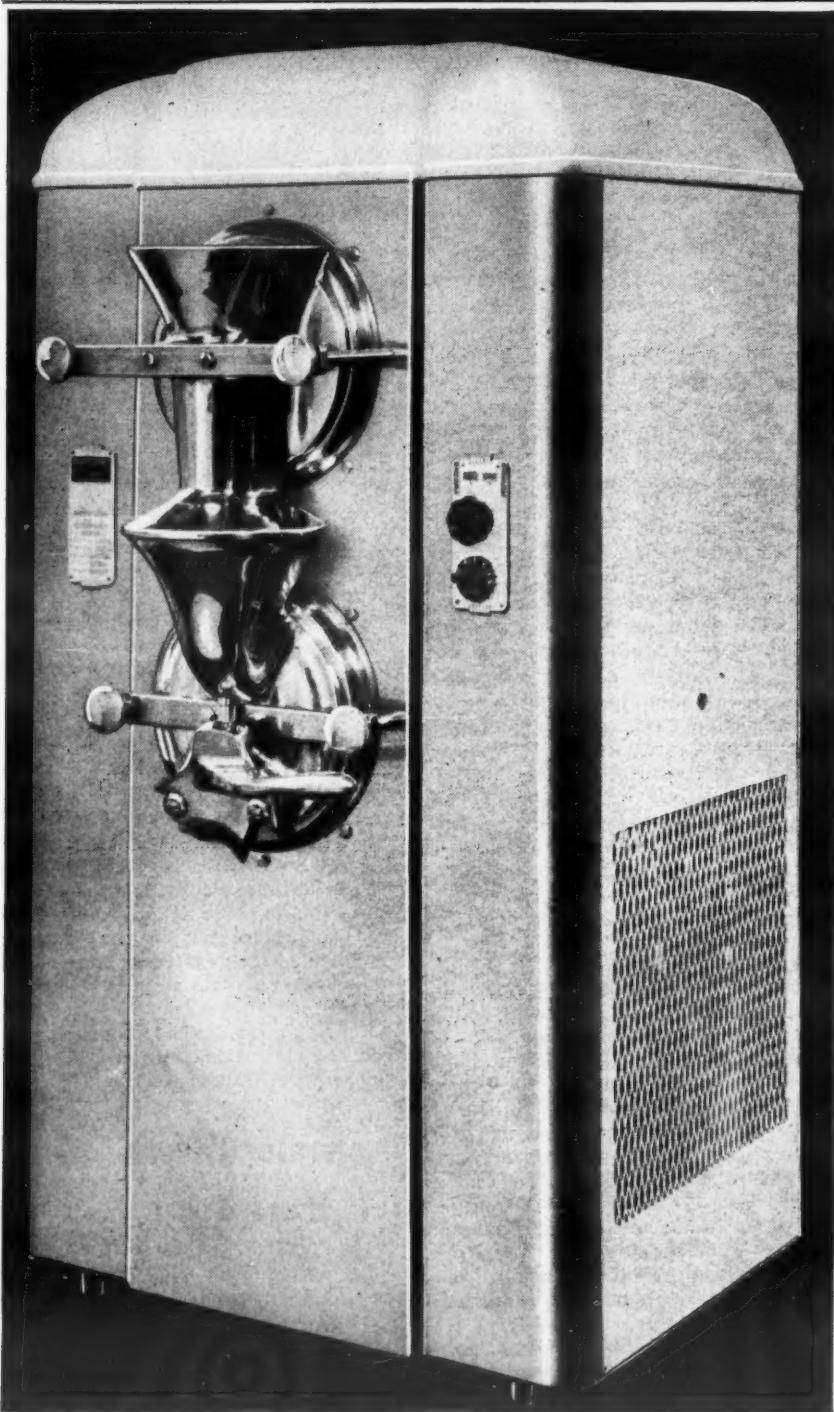
FREEZ-KING CORPORATION

JANUARY 10, 1949

VOL. I, NO. 1

FAST AND PROFITABLE SALES WITH NEW Continuous FREEZER

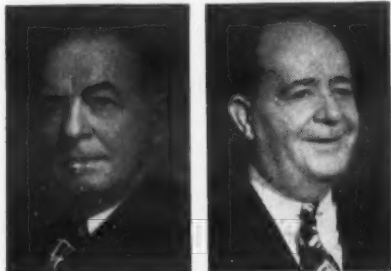
Revolutionary CONTINUOUS Freez-King



PORTABLE—COMPLETELY SELF-CONTAINED, NO PLUMBING NECESSARY. This smartly styled, graceful streamlined freezer is only 18" deep—24" wide and 46" high—its beautiful lifetime stainless steel front, and highly polished dairy metal castings through out, adds to the attractiveness of any store interior. It can be placed almost anywhere—counter, back bar, etc. The simplified design is more compact, easily installed in small space. It freezes and serves soft ice cream, frozen custard, frosted malts, etc.

Top Men of Freezer Industry Head Sales, Design and Engineering of New Freez-King

Never before in the history of the freezer industry have so many prominent and experienced executives been grouped in one organization.



A. E. "Al" Wilson Walter C. Graves

A. E. "Al" Wilson, Director of Sales, for the past 18 years has been General Sales Manager of the Freezer Division of Mills Industries.

Walter C. Graves is Director of Sales, Eastern Division. Mr. Graves has been associated with Mills Industries as Assistant General Sales Manager for over 14 years.

Larry H. Ounsworth, Vice President in charge of National Accounts, for

many years with Taylor Freezers, in charge of sales to national chain accounts. He has installed many hundreds of freezers all over the world for frozen custard and frosted malt in variety stores, department stores and chains.

Leo S. Maranz, President of the FREEZ-KING CORPORATION, has been associated with the freezer industry for over 23 years in both sales and design. He has designed and headed sales for several freezers that are now on the market, including the Knight-Freezer manufactured by Bastian Blessing and the Tuthill Freezer.



L. H. Ounsworth Leo S. Maranz

World's Lowest Priced, Portable, Fully Automatic, Continuous Freezer for Serving Frozen Custards, Frosted Malts, etc.

ONLY FREEZER THAT AUTOMATICALLY CONTROLS THE FLOW OF MIX INTO THE FREEZER

Chicago—Something new and revolutionary hit the freezer industry with a bang that was heard all over the country when the FREEZ-KING CORPORATION recently unveiled their amazing, new PORTABLE, AUTOMATIC, CONTINUOUS FREEZER—THE FREEZ-KING, Model 300-49. Combined in this marvelously constructed and beautifully designed machine were many features usually found only in higher priced freezers—as well as new innovations never before incorporated in any freezer.

Observers were astounded at the spectacular performance of this new continuous freezer. Enthusiastic comment from distributors and retailers indicates that the FREEZ-KING fills a long felt need in the freezer market.

Among the many interesting features of the FREEZ-KING, the most outstanding were:

(1) **CONTINUOUS**—an ever-full freezer that automatically refills with mix as the finished product is drawn off.

(2) **PORTABLE**—18 inches deep, 24 inches wide and 46 inches high, the FREEZ-KING can be placed on any convenient spot, counter or back bar. No plumbing necessary.

(3) **FULLY AUTOMATIC**—a special temperature control maintains uniform temperature at all times.

(4) **METER MEASURE**—a special automatic mix meter measuring device releases amount of mix equivalent to that served.

(5) **LOW PRICED**—priced well within reach of average retailer—and with higher than average distributor discount.

(6) **RAPID SERVICE**—draw-off gate has knife type action, permitting a fine stream for quick filling of even the smallest 5¢ container. Serves 300 or more cups per hour.

(7) **ECONOMICAL**—cost of operation is so small it can hardly be measured—and it's built to last a life time.

(8) **EASILY SERVICED**—all panels are quickly removable for instant service.

(9) **VERSATILE**—the finest freezer for **FROZEN CUSTARDS** and **FROSTED MALTS**, it is ideal for soft ice cream and other frozen desserts.

(10) **IMMEDIATE DELIVERY**—available now—to do a real job.

Automatic Meter Measure Device Adds New Mix As Finished Product Is Served

An entirely new metering device is used to feed mix into the freezer as each serving of finished product is drawn from the freezer. Mix is stored in a large special refrigerated container and as the draw-off gate is opened and a serving made a measured amount of mix flows into the freezer by means of the meter measuring device. (Pats. Pending.)

Retail Profits -- \$80 to \$100 per DAY



ACTUAL COUNTER TESTS have proven that FREEZ-KING will produce from \$3.65 to \$4.20 on each and every gallon of mix used. The average cost of one gallon of 6% frozen custard mix is \$1.00 (this price varies depending on locality). Since the FREEZ-KING at full capacity will freeze more than 40 gallons of mix per 10-hour day, the total profit can run over \$100.00 per 10-hour day. It pays more profit per square foot than any other store equipment.

Freez-King Facts

- Direct Draw
- Controlled Profits
- Controlled Weight
- 3/4 HP Air Cooled Hermetically Sealed Compressor
- 1/2 HP Beater Motor
- Easy to Clean
- All Parts Dairy Metal
- Designed to Meet Health Department Regulations
- Patents Pending on Continuous Meter Measuring Device and Freezer Design

Vast Untapped Markets Awaiting This Type Freezer

There is no retail outlet that is too small to profitably install and use the new FREEZ-KING FREEZER. For the first time many retailers, who have wanted a freezer, but were deterred by price and installation costs, can obtain one that satisfies all their requirements.

Only Continuous Freezer Designed for this Big Market—THE PRESENT ESTABLISHED RETAIL OUTLETS.

The list of possible outlets for this FREEZ-KING is almost endless. Drug stores, confectionery stores, drive-ins, school stores, department stores, park booths, portable refreshment stands, etc., etc. Lunch rooms and restaurants will find it ideal in serving soft ice cream for ice cream dishes and sundaes—as well as on pie, cake, etc.

Serves 300 Cups or More per Hour—Continuously.

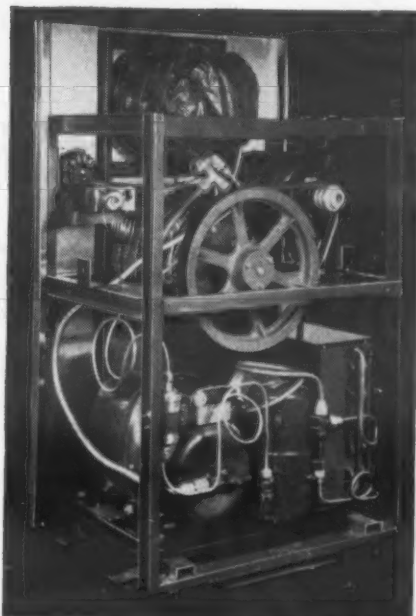
America's finest freezer for **FROZEN CUSTARDS, FROSTED MALTS, ETC.** Ideal, too, for soft ice creams, and other frozen desserts.

Served Direct from Freezer—Always Ready for Service.

The tremendous convenience of a continuous, ever-full freezer cannot be overemphasized. Visible continuous production insures a "freezer-fresh" product of unequalled smoothness and taste—a treat enjoyed by the whole family.

All Panels and Top Easily Removed for Servicing

A very desirable feature of the FREEZ-KING is the ease with which it can be serviced.



DISTRIBUTORSHIPS AVAILABLE!

Some exclusive territories are still open.

For Complete Information

CONTACT

FREEZ-KING CORPORATION

Factory & General Offices

2518 Montrose Ave.

Chicago 18, Ill.

CORNELIA 7-2070

At the Marts--

(Concluded from Page 1, Column 5)

in the event of a price reduction, will refund to distributors an amount equal to the difference between the reduced price and the original purchase price, subject to the conditions of the plan.

"This price protection plan will extend to the dealer, so that all inventories through the dealer level will be protected."

Only on washers was there any tendency shown to get down to "rock-bottom" prices. The \$79.95 full-sized conventional washer model, about which there was considerable rumor at the marts, was traced down by the NEWS and found in the space occupied by the Joseph H. Wiley Co. at the Merchandise Mart. It is marketed under the brand name "National." Barlow & Seelig was offering a model at \$89.95.

Additional stories on new products uncovered at the marts will be found on page 29. Next week's issue will provide more information on manufacturer's product and policy plans as revealed at the marts.

There were a number of logical explanations for the decreased attendance. Fewer independent dealers were on hand, reason probably being that they do not feel the need to scramble for merchandise as they did immediately after the war. Some may have been angered by the failure to get the starting date away from the New Year's holidays. Others may be waiting to come towards the close of the marts, so as to take in the Housewares Show starting Jan. 13.

Westinghouse Shows 5 New Refrigerators

Five new refrigerator models, newly designed and using the all "automatic hold-cold control" for maintaining colder cold in the freezers and steady temperatures in the main food compartments of refrigerators, were introduced by Westinghouse.

The new control is designed to do two jobs: to provide "colder cold" in the freezer and maintain a steady cold in the food compartments, and to do this automatically. There is said to be no necessity for hand adjustments for summer or winter, in wet weather or dry.

The new system is based on the use of two devices, a control to automatically turn the unit on and off in response to the need for refrigeration, and a baffle below the freezer to control the flow of cold air from the freezer section to the balance of the refrigerator.

An important part of the control is a sensitive bulb mounted in the food compartment but near the freezer. The bulb is held close to the freezer by means of a conducting clip, and this arrangement allows the refrigerating unit to turn on and off in response to the cooling needs of either the freezer or the main food compartment, instead of responding only to the need of the freezer as is the usual practice.

In the refrigerator models with conventional vertical freezers—called Super models—the control described is claimed to produce the desired results without the use of a baffle. However, in the models with the

giant-size vertical freezers—called Deluxe models—the control is assisted by an "L"-shaped baffle below the freezer. This baffle is needed, because the larger and colder freezer in this model would by itself produce too much cooling for the needs of the balance of the cabinet.

In the top model of the line, the combination refrigerator-freezer, the Aristocrat, which has an across-the-top freeze chest, the possibility of too much cooling of the normal storage area of the cabinet is automatically controlled. In the Aristocrat, there is a fixed horizontal, insulated baffle below the freeze chest with a space provided between the back of the baffle and the rear wall of the cabinet. The cold air flow through this space is controlled by a movable damper.

The position of this damper is in turn regulated in response to changes in room temperature. As the room temperature rises, the damper opens automatically thus allowing more cold air to cascade down into the food storage space where and when it is needed. This damper is operated by a bulb mounted on the outside back of the cabinet which senses changes in room temperature and transmits their effect to the damper before the change is felt inside the cabinet.

The new refrigerator models include a 10-cu. ft. combination refrigerator-freezer, with an across-the-top freeze chest, called the Aristocrat; a nine and 11-cu. ft. refrigerator-freezer with a side-mounted vertical freezer, the Deluxe, and a 7 and 9-cu. ft. model with a side-mounted vertical freezer, the Super.

With the exception of the Aristocrat model, the new refrigerators are now in distributors' stocks and



This is the 9-cu. ft. deluxe model in the new Westinghouse refrigerator line introduced at the marts. It features a 1-cu. ft. freezer storage compartment, the "hold-cold" control feature with L-shaped baffle under the freezer and thermal bulb outside the freezer to maintain steady temperatures in the main food compartment, a meat keeper (under the freezer), and two Humidrawers.

will be shipped to dealers immediately. The Aristocrat will be on dealers' floors by early spring.

Prices on the new Westinghouse refrigerator models are:

S-7	\$229.95
S-9	259.95
D-9	289.95
D-11	329.95
A-10	379.95

The 10-cu. ft. Aristocrat combination refrigerator-freezer with its full-width freeze chest will have an Anodized aluminum meat keeper and will also have a butter keeper.

The meat keeper will hold 18 lbs. of fresh meat. It has a decorative polished aluminum front and moves quietly and easily on its plastic glides. It has a chrome-plated trivet in the bottom to allow air circulation under the meat to keep it fresher, longer.

"Experience has taught us," declares G. H. Meilinger, manager of the household refrigerator department, "that a meat keeper in a combination refrigerator-freezer is as necessary as one in a conventional type refrigerator. It is needed for the storing of cold cuts and fresh meats which are going to be used in a few days, since it will keep these meats fresh and flavorful without the necessity of freezing them."

The butter keeper, located above the freeze chest, will store one-half pound of butter at spreading consistency for immediate table use. It is equipped with glass butter dish that is designed for use on the table.

The Aristocrat has 1 1/4-cu. ft. of frozen food storage space in the freeze chest. The ice-making includes two 14-cube Handi-Out ice cube trays, two 14-cube Select-O-Cube ice trays, and one 2-qt., 28-cube Select-O-Cube dessert tray. The storage tray immediately below the freeze chest will hold in addition, more than 100 ice cubes.

Other features include two anodized aluminum Humidrawers, which may be stacked one above the other, and flexible shelving.

The deluxe models include a 9 and an 11-cu. ft. model, the first 11-cu. ft. model to be built by the company.

The new super freezers are identical on both models and have space for more than 32 packages of frozen foods, or approximately 35 pounds of frozen foods and ice. They are refrigerated on bottom, sides, and top



Interior of the Westinghouse super model 7-cu. ft. refrigerator. The thermal bulb which responds to both freezer and cabinet needs in the "hold-cold" control is seen at the left of the evaporator.

shelf for faster freezing.

The new 7 and 9-cu. ft. super models carry through the new styling of the Westinghouse refrigerator lines and employ the new automatic hold-cold control.

These new models have freezers with aluminum doors finished in synthetic enamel with a decorative panel. The freezer of the 7-cu. ft. model has refrigerated bottom, sides, and shelf, and has room to store 17 packages of frozen food, or approximately 21 pounds. The Super 9-cu. ft. freezer is identical in size but the top is also refrigerated.

Coolerator Offers Left-Hand Doors

Coolerator showed two left-hinge refrigerator models that it will offer starting Feb. 1 at no extra cost.

The left-hinge refrigerator models are being produced in answer to demands from kitchen planning experts who report that more than one third of all modern kitchens call for refrigerators with a left-hand door swing.

For the present, Coolerator will offer the left-hand door swing on models 9RD-8 and 9RD-7.

With these additions, Coolerator's line now consists of six refrigerator models, two home freezers, and three electric ranges.

They Call It the 'Southpaw' Refrigerator



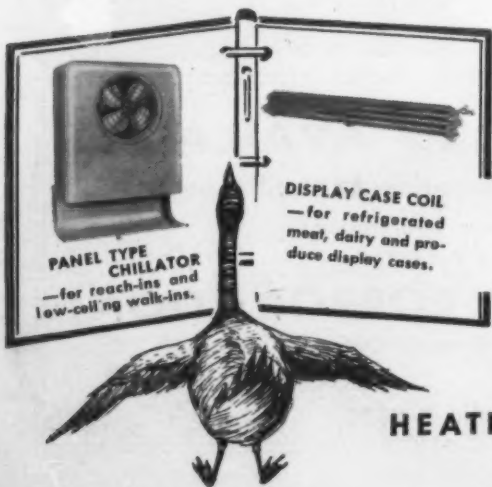
Two new refrigerator models with a left-hand door swing have been introduced by the Coolerator Co., and the girl demonstrates how the left-hand door arrangement works with a display model at the Coolerator exhibit space in the Merchandise Mart, Chicago.



UNIT COOLING TO MEET LOW SIDE NEEDS

Name your "low side" need. You'll find the answer in McQuay's complete and versatile line of Pacemaker Unit Coolers. Ten models with ratings of from 1140 to 34,500 BTU capacity meet all normal refrigerating requirements, from back-bars to walk-ins, where average fixture

temperatures above 35° Fahrenheit are to be maintained. Pacemaker coolers have die-formed cabinets and are equipped with quiet, long life motors. See your refrigeration wholesaler or write to McQuay, Inc.



McQuay Inc.

1607 Broadway St. Northeast • Minneapolis 13, Minnesota

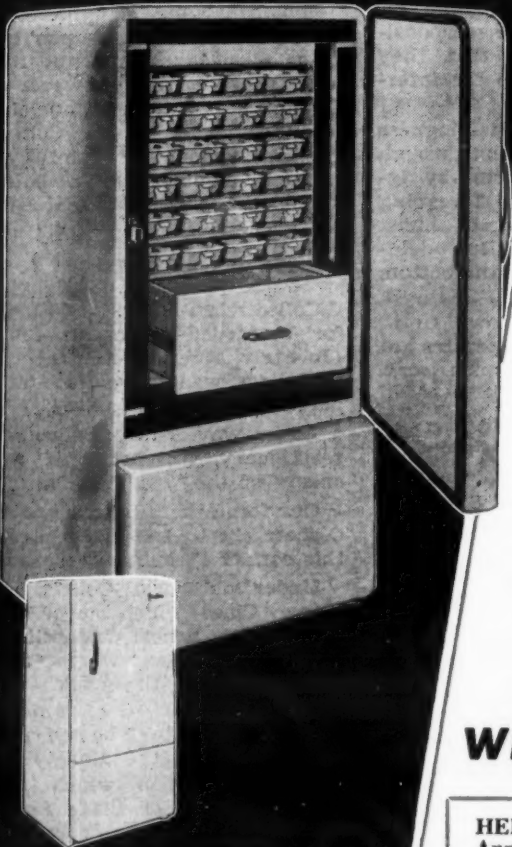
HEATING • AIR CONDITIONING • REFRIGERATION

ONLY JORDON dared to go MODERN

and the result is a **HANDSOME · PRACTICAL · VERSATILE UNIT** for
MERCHANDISING ICE CREAM and FROZEN FOODS

New! UPRIGHT ICE MAKER with TRAYS and STORAGE COMPARTMENT

• Convenient, reach-in height. Freezes up to 200 lbs. (approx. 1400 cubes) per day. Storage drawer on ball bearings holds one full freezing. Handsome exterior design for use in bars, cafes, hospitals, clubs. Looks like a domestic refrigerator. Self-contained hermetically sealed unit.



SPECIFICATIONS:

HEIGHT 57-5/8"
WIDTH 26-3/16"
DEPTH 25-7/16"
ICE TRAYS 24
CUBES PER FREEZING 336
COMPRESSOR:
Hermetic, sealed. 1/3 H.P.
FINISH--EXTERIOR:
Hi-Baked White Enamel on
Bonderized steel.

Sensationally Low in Price!

These new and striking JORDON merchandising units are an outstanding example of modern "functional design". They have decided 'distinction', pleasing over-all harmony, and provide eye-stopping illumination with generous advertising display area. All of this is accomplished without "Brooklyn Bridge" effects and without the top-heavy clumsiness of conventional design.

—and here is why it costs less

Equally important is the fact that this new design, in both refrigerator and super-structure, gives us many manufacturing economies and advantages. And to assure an ample supply of these units we have added new facilities and automatic equipment which will keep our production lines rolling.

We are passing all of these advantages to you right NOW — LOW PRICE and FAST DELIVERY — thus helping you to IMMEDIATELY BETTER YOUR OWN MARKETING OR COMPETITIVE POSITION.

WRITE—WIRE or PHONE for Full Details

CONDENSED SPECIFICATIONS MODEL M-9

HEIGHT: 58" including super-structure. WIDTH: 53 1/2". DEPTH: 28 3/8". CAPACITY: Approx. 350 pint packages—over 300 packages of frozen foods. DISPLAY: Full-color, 3-dimensional photograph. CABINET TOP: Heavy-gauge stainless steel. INTERIOR-EXTERIOR: Hi-Baked White Enamel on Bonderized steel. Vapor-sealed. CONDENSING UNIT: Self-contained hermetically sealed with standard guarantee. CASTERS: Optional. New, modern super-structures (as illustrated), adaptable to 9-16 and 24 cu. ft. merchandising units, AVAILABLE SEPARATELY.

Attention JORDON Dealers and Factory Distributors: This is just ONE of a series of equally fine merchandising coups that we have in store for you during '49. If you haven't received full information about this and other JORDON models now available, get in touch with our sales department at once.

New Feature! 4" PLASTIC FORMED LETTERS

across top of super-structure. They glow brightly telling the contents of the refrigerator—or can be supplied to simulate any trade mark or style.

★ New Feature! MORE CONVENIENT. EASIER ACCESS TO CONTENTS

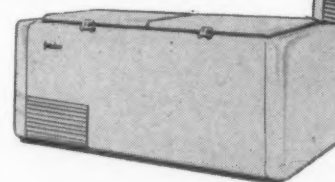
Improved construction provides much larger "reach-in" area.

★ New Feature! MUCH BETTER PACKAGE DISPLAY

Larger opening gives much more top display area. No need to 'bury' brands or products at the bottom of the heap.

★ M-24 . . . FOR ICE CREAM AND FROZEN FOODS STORAGE OR SELLING

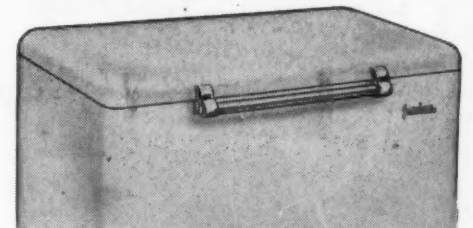
Sliding, full-view doors. For self-service or behind counter. Matching super-structure available. Self-contained unit.



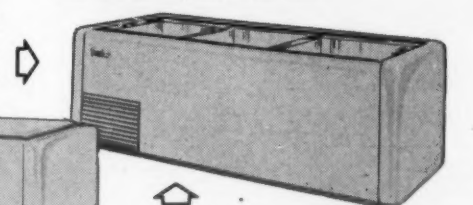
**M-16 . . . ICE CREAM AND
FROZEN FOOD MERCHANDISERS**
with Thermopane sliding glass doors. Sizes up to 24 cu. ft. Matching super-structure.



MODEL M-9
USED AS A DISPLAY OR STORAGE refrigerator for DAIRY PRODUCTS or for other high-temperature requirements.



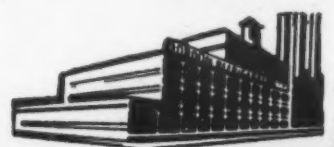
TC-9 . . . HOME FREEZER
with self-balancing lid. Improved design gives a third more capacity without increasing over-all size.



**TC-16 . . . FOR
ICE CREAM AND
FROZEN FOODS**
Solid doors. Capacities up to 150 gals. Self-contained unit. For back-room storage or use behind counter.

Jordon
AMERICA'S MODERN COMPLETE LINE
JORDON REFRIGERATOR CO.

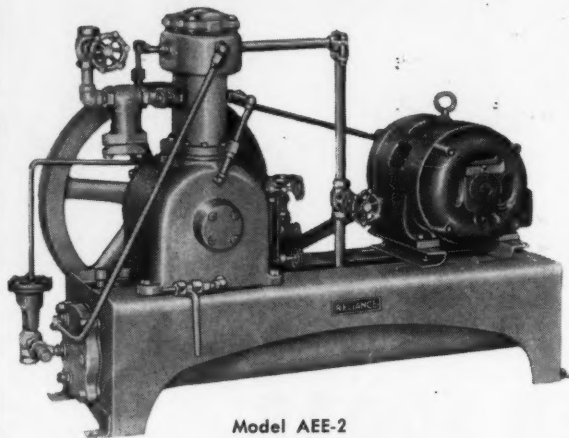
Factory and Sales Division
58th St. and Grays Ave., Phila. 43, Pa.
CABLE: "JORDONREF" BELGRADE 6-4510



RELIANCE CONDENSING UNITS

METHYL CHLORIDE • FREON • AMMONIA

By one of America's oldest manufacturers



Model AEE-2

RELIANCE AMMONIA UNITS REQUIRE NO MORE SPACE THAN FREON UNITS OF EQUAL CAPACITY OR HORSEPOWER

Featuring:

1. SIMPLICITY.
2. RUGGEDNESS.
3. QUALITY MATERIALS.
4. ECONOMY OF OPERATION.

MODEL ILLUSTRATED IS 5 H.P., 2 CYL., 3" x 3" COMPRESSOR

AMMONIA SELF-CONTAINED UNITS AVAILABLE IN

1½ TO 15 H.P. SIZES. OVER 15 H.P. NOT SELF-CONTAINED

DEALERS WANTED

Write for Catalogue, Prices & Specifications

RELIANCE REFRIGERATING MACHINE CO.

3403 N. Kedzie Ave.

Chicago 18, Ill.

Manufacturers of quality equipment for 30 years.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Continued from Page 1, Column 1) everything about Capitalism or capitalists (your dad, for example) is insufferable.

Thus it happens that each June a crop of high school and college graduates may overlook its own comfortable, colorful, interesting surroundings, and be uppity about minor faults of the pretty nice and pretty "soft" American life they have inherited.

Spurred by their teachers, they whip up inconsequential grievances into a froth of dissatisfaction with the "old order." Because a water faucet leaks, impatient youths ignore the fact that they live in a neat home, sleep in a good bed, can take a bath any time, and eat well.

Dad gets the blame for the leaky faucet. And so does the economic system which gave Dad his opportunity. Junior thinks both are stupid.

Work or Starve

It's easy for a bespectacled "long-hair" to theorize upon America's short-comings, and to pontificate upon what should be done to ameliorate the uncomfortable conditions of those who might be accounted "poor" by American standards. (Citizens of nearly any other nation would deem America's "poor" to be rolling in blissful clover.)

The radical theorist doesn't show up well, however, when he prescribes patent-medicine nostrums for the cure of trifling ailments in our democratic Body Politic. He might be a sharp diagnostician, but he's an inept doctor.

He is indignant about past impositions. He'll rattle off a list of piques and jealousies until you're dizzy. But when you say to him: "All right, show us how to rectify these evils," he either wanders away or advocates a bloody revolution which would tear the roofs off all happy homes, and leave everyone "holding the bag."

Anyone can be malicious. But only a few of those rare clear-thinkers who miraculously arrive at a historical trouble-point once in a lifetime can install a new *modus operandi* without making things worse than they were before.

Whenever that extraordinary specimen, a *clear-thinker*, is called in for consultation by the receivers of an ailing business or a sick nation, invariably he prescribes more work for everybody. That makes him unpopular. His prescription is the reverse of what the patient hoped he'd order.

Yet, history shows that corporations and countries which are "up against it," physically and financially, usually sink without a trace, if they don't take the clear-thinkers' advice.

When they do work extra hard to pay off their debts, so as to resume an appearance of solvency and reacquire a reputation for responsibility, they demonstrate that they deserve a new thrust into the international grab-bag.

Debtors who evidence a willingness to liquidate their obligations through their own strenuous efforts—by ignoring the time-clock and foregoing vacations-with-pay—can get almost unlimited new credit. But debt-wishers often wind up at the bottom of a river.

When you get right down to it, any economic system operates at peak efficiency only when men work.

Our Fathers Validated a Principle

The rise of the United States as an unparalleled world power presents a spectacular demonstration of this principle, viz.: that long hours and extra effort are rewarded handsomely.

For nearly 200 years HARD WORK was the creed of our citizens. America's original immigrants had to work like dogs in order to feed, clothe, and shelter their families. So they did work and work and work—around the clock.

And their sons and grandsons, who had been taught right, kept right on working overtime—even though their forefathers had cleared the wilderness, removed the Indians, and mastered a continent.

Eventually, these immigrants and their descendants worked so much more than was really necessary that they and their families saved up a lot of hard-earned money, which they reinvested in American enterprises.

This capital accumulation and reinvestment made possible the railroad, the telephone, the automobile, the electric refrigerator, the radio, air conditioning, quick-frozen foods—yes, and the atomic bomb.

Long hours, self-sacrifice, and ingenuity were converted into the savings which financed our antiseptic hospitals, good roads, fine hotels, beautiful homes, apartment houses, the movies, home laundries, dish-washers, electric irons and fans, toasters, coffee-makers, guaranteed security in old age through insurance, mechanical shavers, synthetically beautiful women, radio "washboard weepers" and movie cartoons, professional sports, television, lipstick, nursery schools, permanent waves, and syndicated newspaper columns.

This *tour-de-force* of the work-hard-and-save spirit also has unified

our nation. Residents of "whistle-stop" small towns have become well-informed, well-housed, hilariously entertained, and scandalously clad just like the denizens of New York and Paris—because hard-working immigrants denied themselves temporary pleasures in the hope of increasing their financial stake in this marvelous nation.

And third-generation Italians, Germans, Swedes, Africans, Portuguese, Swiss, Poles, Anglo-Saxons, and Irishmen have fused into a new race—the most successful of all time—known, revered, and envied the world over as AMERICANS.

All this pyramiding of national comfort, pride, patriotism, glamour and excitement resulted from WORK and self-denial on the part of fathers and grandfathers.

Instead of sneering at their accomplishments and reviling their economic philosophy, their offspring should honor their achievements and emulate their derring-do "spirit."

When an ambitious-to-get-ahead youth is spurred to do his best by the presence of economic freedom, he trusts his own judgment, and backs up that judgment with a maximum of effort and risk-taking.

In so doing, occasionally he piles up wealth. More often, he loses his "stake." If he loses, he's forgotten. But if he wins, he makes life more interesting and comfortable for future generations—and especially so for his legatees.

His sons and daughters, whose minds often are misshapen by mal-adjusted pedants, are apt to dissipate that wealth, however—either through extravagant indolence, or through conversion to Collectivism (which syphons off painfully accumulated capital into a bottomless rat-hole of so-called "social service").

Turning Back the Clock

Collectivism is just another name for outmoded European feudalism. (In early American terms, old-world feudalism was translated into "the plantation and the slaves.")

As a way-of-life, Collectivism is reactionary, anachronistic, and the enemy of the "common man."

Our forefathers fought and worked desperately to free themselves from this sort of tyranny.

Under old-world Collectivism, an Upper Class which never soils its hands with honest toil tells underlings what, when, where, and how they should toe the mark.

(That's how Communism and Socialism operate. The self-appointed Few dictate to the Many.)

The only boon which the old-world Religion of State Supremacy actually offers to the "common man" (beyond a brief chance for "revenge") is a faint hope of becoming a small-time gentleman of leisure—if he hews to the "party line" and is obsequious to the party bosses.

This hope is surely faint. All oligarchies tend to perpetuate themselves. In some American labor unions, for example, only sons or cousins of card-holders will be admitted as apprentices.

And communist cell-dictators have already proved themselves to be as humanly nepotistic as power-mad union leaders and complacent majority stockholders often are.

In brief, kissing the feet of party bosses won't assure the grovelling sycophant that he'll live off the "fat o' the land" forever after without toil. Only the "elite" of a labor union or a political party ever convert leisure into riches.

Mass laziness still is impossible. The "push-button era" has not yet arrived. All of us have to work for what we get—even if we don't work so hard as our ancestors did.

If the "common man" loafs, neither he nor his brethren will earn so good a living, comparatively, as his fathers and grandfathers enjoyed.

(To Be Continued)

CASH IN...

ON THIS BIG EXPANDING MARKET WITH Larkin Lo-Head Evaporative Condensers

More and more cities are being faced with water shortages and sewerage restrictions due to limited facilities.

This means more and more prospects for the Larkin Lo-Head Evaporative Condenser, because it permits operation of air-conditioning and refrigerating equipment where water wastage or excessive water usage is banned. In addition, it offers users sizable savings on water bills where rates are high.

Don't overlook the opportunity this profitable and expanding market offers you. See your jobber or write us today for full details and descriptive folder on the Larkin Lo-Head Evaporative Condenser.

QUALITY FEATURES FOR QUICKER SALES

- 100% prime transfer surface
- Wheels, scrolls, heavy 10-gauge pump tank, and welded frames are hot zinc sprayed after fabrication
- Bronze shafting and self-aligning bearings on all models
- Heavy galvanized steel side panels
- Low speed, forward curve-type fans with moisture sealed ball bearings
- All parts protected with weather-resistant paint
- Dependable LARKIN quality throughout

Now Available for Prompt Delivery

LARKIN



COILS

ORIGINATORS OF THE CROSS-PIN COIL

319 MEMORIAL DRIVE, S.E. ATLANTA, GEORGIA

ANYTHING AND EVERYTHING YOU NEED

... In Refrigeration, Air Conditioning, Heating Parts and Supplies ... selected from our complete stocks ... the same day your order's received ... by competent experienced men. A can't-be-beat time and money-saving help for you!

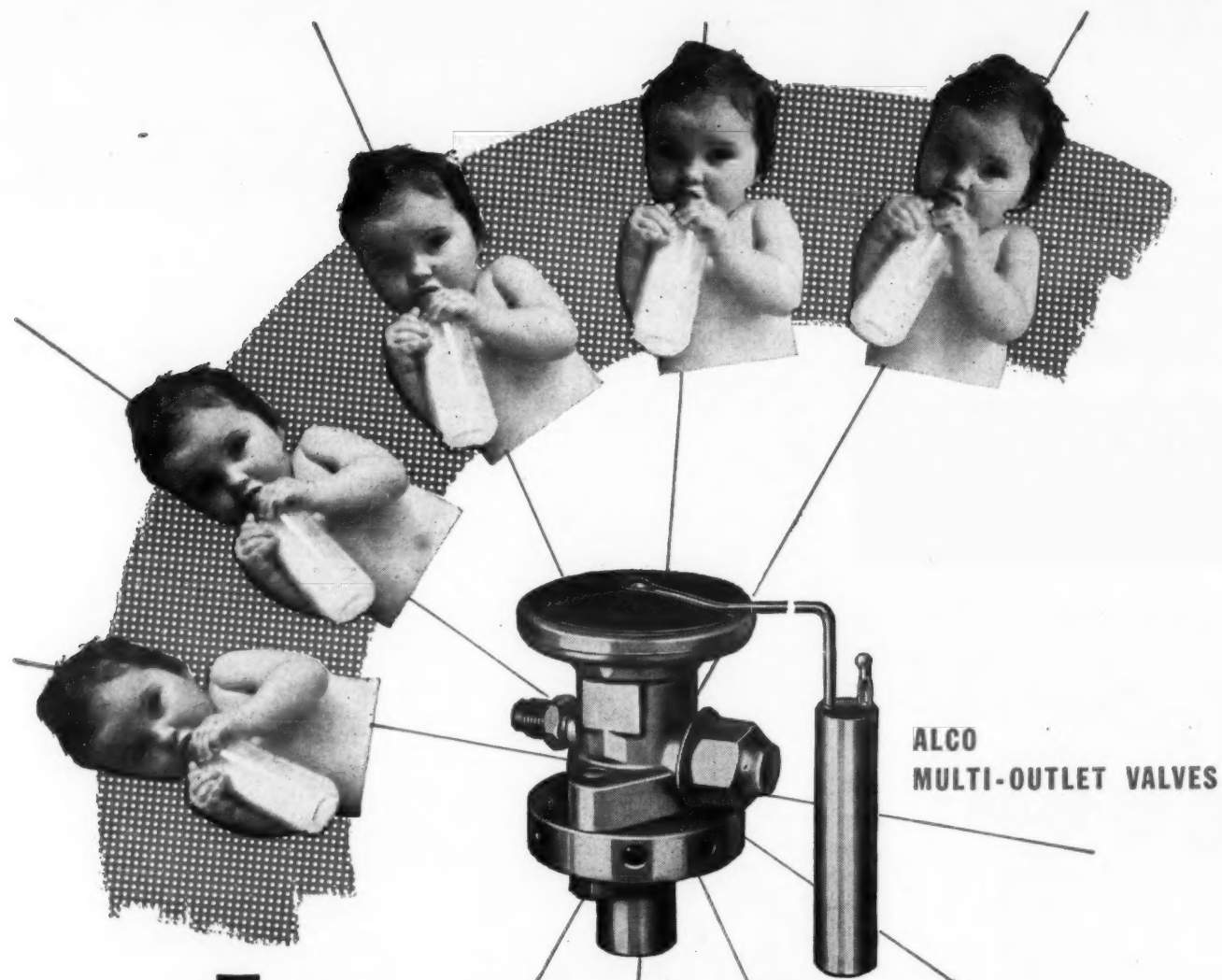
THE SUPPLY HOUSE THAT SERVES THE WORLD • Wholesale Only

SERVICE PARTS CO.

2511 2611 LAKE STREET

MELROSE PARK, ILLINOIS

Send for catalog today!



EQUALLY WELL FED!

Coils can deliver full capacity only when the refrigerant is evenly distributed. Faulty feeding often causes a single coil circuit to "flood through" to the valve's thermal bulb, throttling all coil circuits.

REMEDY: Install ALCO Multi-Outlet Thermo Valves. They increase coil capacity $\frac{1}{4}$ to $\frac{1}{2}$ by **uniform distribution:**

- ▶ **All circuits are fed equally regardless of load changes**
- ▶ **Refrigerant is accurately metered within valve body before gas and liquid separate**
- ▶ **Instant, alert control assures maximum efficiency under all conditions . . . no "hunting" or "cycling"**

Available at your wholesaler's for all refrigerants and applications: $\frac{1}{2}$ to 50 tons FREON-12, 2 to 36 outlets. Ask for our Bulletin 180.



Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

3525

see your **"DETROIT"**
WHOLESALE
for
Expansion Valves
Solenoid Valves
Controls

"DETROIT"

DETROIT LUBRICATOR COMPANY General Offices: 5900 TRUMBULL AVENUE
DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION
Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories
"Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

EXPORT DEPARTMENT—Box 218, Ridgefield, New Jersey

Air Changes Every 6 Min. In New Insurance Bldg.

OMAHA, Neb.—A new air conditioning system to hold winter and summer temperatures at 76° F., and completely change the air every six minutes, is included in a \$3,000,000 headquarters addition just completed by the Companion Companies, a group of insurance firms here.

The nine-story, completely air conditioned structure adjoins a \$1,000,000, five-story headquarters building erected in 1940 and similarly air conditioned.

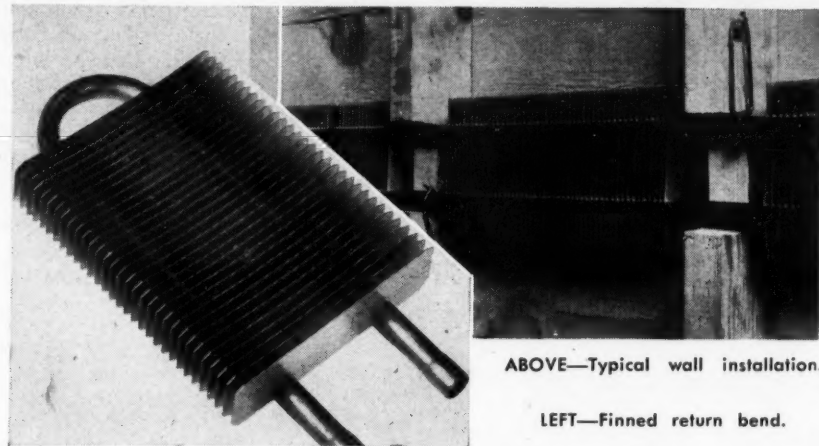
The buildings provide a business area of more than eight acres occupied by the United Benefit Life Insurance, the United Benefit Fire Insurance Companies, and the Mutual Benefit Health & Accident Association.

Air used in the system is purified by an ionizer whose 12,000 volts of electricity remove even cigarette smoke. The new structure also has 11½ miles of fluorescent lighting.

Conditionaire, Ltd. Forms In Los Angeles County

LOS ANGELES — Conditionaire, Ltd. has been incorporated in Los Angeles county, with a capital of \$50,000, plus 250 shares of no par value stock. Principals are: Fred M. McCown, of Redondo Beach, Calif.; Joseph P. Wilkins, of San Gabriel, Calif.; and C. J. Sharpe, of Los Angeles. The new corporation is represented by Sanford Simon, 355 South Broadway, Los Angeles.

Quicker Response, Low Costs Claimed for New Type of Finned Radiant Heating Coils



ABOVE—Typical wall installation.

LEFT—Finned return bend.

CHICAGO — Several advantages over conventional type radiant heating installations are claimed for the use of finned type hot water coils hidden behind ceiling or wall surfaces, according to Kritzer Radiant Coils, Inc., which has introduced this new method.

Instead of heating the wall, ceiling, or floor surface directly by imbedded tubes or piping, the Kritzer method heats the air behind these surfaces by means of finned coils carrying hot water.

This is claimed to give quicker response to heating requirements, provide low original cost, low installation cost (two men, it is said, can install the average job in one day without delaying other trades,) low operating costs, simplicity in estimating, and still maintain all the advantages of radiant heating.

The Kritzer coils are constructed of two parallel runs of 5/8 in. copper tubing on 3 in. centers with 1½ by 6-in. aluminum fins mechanically bonded thereto. Instead of the tubing running through the center of the fins, the latter are approximately flush on one side.

Coils are available in standard lengths with finned sections to fit 12-in., 16-in., or 24-in. joist or stud spacings. Also available are finned return bend coil sections for connection at one end of a run of coils.

When the framing of the house has been completed and before the interior walls are erected, the coil lengths are installed in courses extending crosswise to the joists from one end of the house to the other. Every joist space has a finned coil section, the courses of coil starting about 12 in. to 18 in. from the side walls and being placed on centers varying from 5 ft. to 12 ft., depending on heat requirements of the job.

To install ceiling coils a chalk-line gives the course position and then a special "Red Head" hanger is nailed to every fourth joist. Coils are placed in the lower claws of the hanger, the coils adjusted to fit the joist spaces, and then one end of each coil is belled to take the next coil end.

Solder rings are placed on each bell, and then the entire coil length is soldered. The coil course is then raised to its permanent position in the hanger, which is so designed to permit expansion or contraction of the coil length without binding.

To keep the coil courses above the ceiling construction, 2-in. by 2-in. furring strips are applied crossways to the joists, and the ceiling is then applied to the furring strips. This permits a space of about 1½ in. below the tubing and fins.

Zone control of the heating system is achieved by connecting different feed and return lines to a manifold at the hot water circulating pump. Short runs of tubing are the rule,

the limit per circuit being arbitrarily set by Kritzer at 120 ft. (60 lineal ft. of coil.) Four or five such circuits, carrying a water velocity of ½ g.p.m., are claimed to be more than ample for the average home.

With the small number of circuits and short travel of water, the problem of balancing out the various circuits is claimed to be virtually eliminated.

Hot water up to 140° F. can be circulated through the coils without damage to plaster or concrete surfaces, it is claimed. During actual operation, panel surfaces are said to rarely exceed 100°.

Together with the coils and hangers, a complete tool kit and instructions for installing and testing are available from the manufacturer.

A Complete Line FOR EVERY TYPHOON AIR CONDITIONING NEED

Year-in, year-out economy and efficiency give Typhoon distributors an unbeatable talking point. Ruggedly engineered for trouble-free performance, oversize components insure full-rated capacity at all times. A complete line of air conditioning equipment that adds up to complete customer satisfaction. Every Typhoon distributor has the shoulder-to-shoulder cooperation of an organization with 40 years of air conditioning experience.

Easy to sell, easy to install, easy to service.



Tie Up with TYPHOON

Nationally advertised in top publications... backed by a sales-winning program of dealer promotion and sales-training.

COMPRESSORS
Compact ½-ton to 50-ton units to deliver maximum refrigeration at minimum cost.



LOW SIDE UNIT
Made for use remote from the compressor unit. Comes complete with filters and multi-outlet expansion valve.

TYPHOON AIR CONDITIONING CO., INC.
794 UNION STREET • DEPT. AN 5 • BROOKLYN 15, N. Y.

Air Conditioned with



Refrigeration

Three "New Eclipse" compressors provide 117 tons of refrigeration for air conditioning the restaurants of The Brass Rail, at 521 Fifth Avenue, New York. The installation, with its excellent results, is a credit to Armo Cooling and Ventilating Co., New York Distributors of Frick air conditioning equipment.

The Fifth Ave. Restaurant of The Brass Rail Chain

The Dining and Grille Rooms Seat 850 People

Frick "New Eclipse" compressors have back of them 66 years' experience in building dependable cooling equipment.

When you want dependable refrigerating, ice-making or air conditioning equipment, contact your nearest Frick Branch Office or Distributor; they're in principal cities everywhere; or write, wire, phone, or visit

FRICK CO.
WAYNESBORO, PENNA. U.S.A.

Two of Three Frick "New Eclipse" Machines at The Brass Rail

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOOD MERCHANTS:
Are excited about the "Advanced Styling and Design" that mark these cases as top food merchandisers.

THEIR CUSTOMERS:
Buy more, because these cases make buying easy and pleasurable.

EVERYBODY'S TALKING!
DEALERS & DISTRIBUTORS:
Are enthusiastic about the high salability and profit opportunity of the NEW FOGEL Open-Style, Self-Service Display Cases.

FOOD MERCHANTS:
Are excited about the "Advanced Styling and Design" that mark these cases as top food merchandisers.

THEIR CUSTOMERS:
Buy more, because these cases make buying easy and pleasurable.

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOGEL REFRIGERATOR COMPANY
5400 Eadom St.—Phila. 37, Pa.
Phone JE 5-8300—Cable "FOREFCO"

Two of Three Frick "New Eclipse" Machines at The Brass Rail

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOGEL REFRIGERATOR COMPANY
5400 Eadom St.—Phila. 37, Pa.
Phone JE 5-8300—Cable "FOREFCO"

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOGEL REFRIGERATOR COMPANY
5400 Eadom St.—Phila. 37, Pa.
Phone JE 5-8300—Cable "FOREFCO"

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOGEL REFRIGERATOR COMPANY
5400 Eadom St.—Phila. 37, Pa.
Phone JE 5-8300—Cable "FOREFCO"

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

FOGEL REFRIGERATOR COMPANY
5400 Eadom St.—Phila. 37, Pa.
Phone JE 5-8300—Cable "FOREFCO"

Write, Phone, or Cable for information concerning FRICK "Profit Makers".

Norge for '49

BORG-WARNER QUALITY PRODUCTS

It's the



Bigger... Better...



A NEW YEAR

Norge, "champion of independent distribution," enters the new year with complete confidence that 1949 will witness the greatest sales triumphs in Norge's 22-year history.

A NEW LINE

This confidence is the result of two things: first, the commanding position occupied by Norge in the minds of the public; second, the commanding character of the Norge line for 1949.

A NEW FUTURE

The quality products pictured at the right represent the best efforts of master designers, master engineers, master builders and masters of sales psychology. With these products, Norge dealers will realize, more than ever before, that Norge is the BIG DOLLAR value in appliances!

ELECTRIC RANGES



REFRIGERATORS



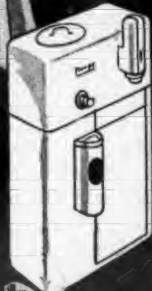
HOME HEATERS



GAS RANGES



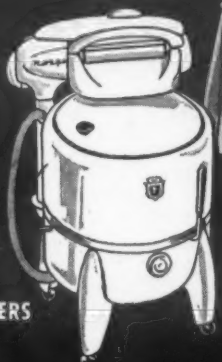
WATER COOLERS



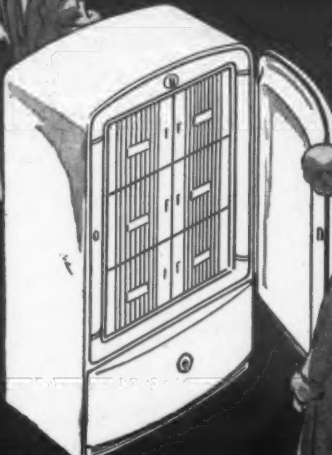
ELECTRIC WATER HEATERS



WASHERS



UPRIGHT FREEZERS



CHEST-TYPE FREEZERS



"The best Dealers in town sell

Norge"

SEE
NORGE
BEFORE YOU BUY

11th Marvair Heat Pump Installed In Chattanooga

CHATTANOOGA, Tenn.—The latest installation of a Marvair heat pump here brings the total of such installations in this area to 11, the Electric Power Board of Chattanooga reported recently.

This particular unit features more ducts for its size than any of the other installations, according to utility officials, because it has return air ducts from each room.

The unit is installed in an extra large six-room house with an additional room in the basement. The 15,000-cu. ft. installation with 86,000 B.t.u. heat loss is taken care of by a 5-hp., 3-phase unit.

Sadler Electric Opens Store, Repair Shop In Niagara Falls

NIAGARA FALLS, N. Y.—Sadler Electric Service and Repair has opened a new store and repair shop at 708-9th St., featuring a complete line of major and traffic appliances.

Gov't Researchers Test Tunnel Coolers That Ready Grapes for Shipping In 1 Hour

WASHINGTON, D. C.—Specially designed tunnels, which pre-cool grapes to suitable temperatures in one hour, will enable West Coast growers to cut the shipping time from harvest to market by from 14 to 24 hours, report W. T. Pentzer and W. R. Barger, plant physiologists of the U. S. Department of Agriculture (USDA).

Funds from the Research and Marketing Act have made it possible for Pentzer and Barger to conduct detailed performance tests of two commercial tunnel coolers built in California in the past two years.

"The main reason for pre-cooling grapes quickly is to keep them from losing moisture and from developing decay," USDA explained. "The current practice is to pre-cool the fruit to as near 45° as possible after the lugs are packed."

"The cooling is done either in cold storage room or in the refrigerated cars. It requires from 14 to 18 hours

and generally delays shipment a full 24 hours. In a period of declining markets, the delay may mean heavy losses to the shipper.

"A model tunnel cooler developed by Pentzer and Barger in 1938 has served as basis for the design of the two commercial coolers under study.

"Recognizing that the quickest way to improve cooling was to expose the fruit to blasts of cold air, they devised a tunnel where this could be done as the unlidded lugs were moved slowly to the lidding machine. Air directed on the open faced lug at a velocity of 600 f.p.m. cooled the grapes in an hour.

"In one of the commercial coolers tested, ammonia coils in the bunkers maintained air blasts of 25° F. to 30° F. Fans blow the cold air down on the grapes being moved through the tunnel. After the grape season, the compressors in this installation can be used to cool storage rooms and the tunnel becomes a bunker for

cooling air circulated to the rooms.

"The second commercial cooler uses ice instead of mechanical refrigeration. Here the grapes are moved in four layers through the tunnel.

"Propellor-type fans blow the cold air around the top two layers. A baffle between the second and third layers divides the air stream into discharge and return and prevents the air from by-passing the fruit. Air returning to the bunker cools lugs on the lower two layers. Seven hundred lugs can be cooled in this tunnel in a minimum of two hours.

"Recent tests by Pentzer and Barger show that unpacked grapes moved through a cooling tunnel on 1/2-in. mesh wire screen can be cooled to suitable shipping temperature in 11 minutes. More study will be given to this method next season."

Rochester Fuel & Heating Firm Opens New Appliance Outlet

ROCHESTER, N. Y.—Gailey Fuel & Heating Corp. has opened a new appliance store at 870 N. Goodman St., featuring appliances and air conditioning equipment.

Payments Slowing Up, Higher Bad Debt Losses Foreseen by Credit Men

NEW YORK CITY—Credit men say that payments on accounts are slowing up and that higher bad debt losses are expected.

They also assert, according to Henry R. Heimann, executive manager of the National Association of Credit Men, that accounts receivable are at a post-war high and that inventories are higher than normal.

Heimann, who makes a monthly business review from reports by 30,000 credit and financial officials around the country, said that two-thirds of the men reporting declared that their companies planned no plant expansion in the next two years.

Eighty percent of them, he asserted, said they were planning to purchase no unusually large amounts of equipment next year. A total of 75% of them said that their companies had added more salesmen and 50% said that additions had been made to the credit department.

About 75% expected labor shortages to crop up next year. About 50% believed that earnings would decrease next year, 25% foresaw increases, and the rest expected earnings to remain approximately the same.

Paint Firm Air Conditions New Quarters In Omaha

OMAHA, Neb.—Morris Paint and Varnish Co. has opened Nebraska's most modern paint store, office and warehouse at 27th and Douglas streets, featuring year-round air conditioning in the new, all steel and concrete structure which is an off-set two story design. Spacious thermopane windows in the front provide natural lighting which is combined with modern lighting facilities and colorful decorations.

Temperature and humidity control in the large basement protects the wallpaper, paints, varnish, and other materials held in storage. Steel decking of the type used in the construction of Victory ships was used in constructing walls and ceilings, while rubber conveyors take materials up or down in the warehouse and storage area.

Chicago ASRE To Hear Talk On 'Plate Milk Coolers'

CHICAGO — Dale Gillespie, of Creamery Package Mfg. Co., will discuss "Plate Milk Coolers" at a meeting of the Chicago section of the American Society of Refrigerating Engineers on Thursday, Jan. 13, in the Builders Club.

Partners Incorporate Holbrook Refrigeration

LOS ANGELES—Former partners James H. Allen, Charles W. Bush, and Forrest E. Hershey have incorporated their commercial refrigeration dealership here as Holbrook Refrigeration, Inc. The firm is located at 1514 W. 7th St., Los Angeles 14. Telephone number is Drexel 2181.

This is the first of a series outlining the advantages of "FREON"

WHY "FREON" REFRIGERANTS MEET WITH APPROVAL EVERYWHERE . . .

OUTSTANDING CHARACTERISTICS OF "FREON" REFRIGERANTS

- NONTOXIC
- NONFLAMMABLE
- NONEXPLOSIVE
- NONCORROSIVE
- ANHYDROUS
- PURITY
- QUALITY
- ACID FREE
- NARROW BOILING-POINT RANGE
- AVAILABILITY

They're nontoxic . . . one of the reasons why "Freon" refrigerants are widely accepted. They are safe for all types of commercial, industrial and household air conditioning and refrigerating requirements.

If a leak occurs in the system at any time, people or pets, foods, fabrics or finishes. These refrigerants are odorless . . . yet are readily detected by means of a halide lamp.

"Freon" refrigerants comply with even the most stringent building codes and ordinances. They are listed among refrigerants in Group 1 of the A.S.A. B-9 Code as entirely safe for all general applications. Many codes require that refrigerants used in hotels, restaurants, theaters, stores and office buildings must be in this Group.

The nontoxic characteristics and other outstanding features of "Freon" refrigerants are the product of an intricate, laboratory-controlled procedure of manufacture. All "Freon" refrigerants are as pure as raw materials to finished product, tests are periodically made to assure this purity and uniform quality . . . important factors in the economical, efficient operation of modern, compact air conditioning and refrigeration equipment.


There's a "Freon" Safe refrigerant for every air conditioning and refrigeration need. That is why engineers and others concerned with system installations recommend that owners protect their investment by approving equipment designed to utilize these refrigerants.

Kinetic Chemicals, Inc., Tenth and Market Streets
Wilmington 98, Del.



FREON *SAFE* REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants and propellants.



Continuously Serving THE REFRIGERATION INDUSTRY Since 1919

EVAPORATIVE CONDENSERS
DRY-EX WATER CHILLERS
FREON AND AMMONIA CONDENSERS
SHELL AND COIL CONDENSERS
PIPE COILS
INDUSTRIAL UNIT COOLERS
HEAT EXCHANGERS
OIL SEPARATORS
LIQUID RECEIVERS

Select the items you are interested in, and—

Write for free Acme Catalog today

REPRESENTATIVES IN PRINCIPAL CITIES

ACME INDUSTRIES INC.

JACKSON, MICHIGAN

Though 0° Seems Best for Storing Most Items, No Universal Temp. Has Been Found, ASRE Told

WASHINGTON, D. C.—Storage temperatures of "0° F. are adequate for most frozen foods for the periods they're usually stored," but "I don't believe there is a universal storage temperature," declared Dr. J. G. Woodroof at the recent annual meeting of the American Society of Refrigerating Engineers here.

Discussing "Effect of Storage Temperature on Frozen Foods," Dr. Woodroof stated that "from the standpoint of practicality, 0° storage seems to be best.

"Can we have a 'best' temperature for all products? Probably not, because products vary so much. Beef storage temperature, for example probably wouldn't have to be as low as pork storage temperatures.

"Generally, the lower the temperature the more satisfactory the frozen food, but as temperature goes down costs go up. We have to reach an economic balance," he said.

Also emphasized was his belief that "low temperatures and their high costs may rule out marginal products."

Importance of correct storage temperatures for frozen foods was stressed by Woodroof, who stated that "improper storage temperatures will nullify the best freezing conditions. Storage temperature is actually more important than initial freezing temperature.

"While 0° F. is generally considered acceptable, higher temperatures have been used. Should they be lower?

"Perhaps products with a quick turnover may be practical for storage temperatures as high as 15°, while long-term storage may require -15° or -20°."

He added that "mildly flavored and low acidity fruits like peaches should be held at a lower temperature than such things as strawberries, cranberries, and the like. Foods with active enzymes also require lower temperatures than other types."

These conclusions of Dr. Woodroof were based on extensive studies made with frozen asparagus, strawberries, peaches, snap beans, and cream style corn.

At three-month intervals for a year the following qualities were measured:

Appearance, changes in weight, ice crystals, color, aroma, rancidity, texture, and flavor.

Commenting that "the size of the ice crystals in all of the lots of asparagus increased many times during storage, and the frequency of the larger ice crystals more than doubled, there was no evidence that this growth of number and size of ice crystals was related to the specific

storage temperature," Dr. Woodroof said.

"It is believed that the growth of ice crystals depends largely upon the constancy of an even temperature rather than on a specific storage temperature."

It was indicated also by the speaker that storage life of virtually all frozen foods is "definitely limited."

Citing tests on four lots of frozen peaches stored respectively at -10°, -20° to 0°, 0° to 10°, and 10° F., Dr. Woodroof declared that "after a year none of the samples rated much over 50% of their palatability when fresh, while at the end of three months storage were rated at 85% to 95% on palatability."

"Frozen asparagus showed a gradual dropping down in score, although it was almost as good after eight months' storage as when fresh. There was a big drop in score after eight months, however.

"Snap beans, one of the most difficult foods to hold, had a breaking point in quality at between four and eight months' storage."

In all the tests discussed by Dr. Woodroof, the foods held at the lowest storage temperature (-15° or lower) almost invariably came up with the best score, his charts indicate.

For short-term storage, however, of six months or less, the tests generally showed that there was little difference in the quality of the product between that stored at the lowest temperature and that stored at 0° F.

Products stored at the highest temperatures (10° and 15°), however, suffered in comparison, especially after six months' storage.

Home Canning Is Giving Way To Freezing In Ga.

AUGUSTA, Ga.—The growing popularity of home freezers and freezer lockers made itself felt at the recent Exchange Club Fair here, the Georgia Power Co.'s Sales Log related.

When fair time came, the ladies in charge of the canning exhibits found themselves with only enough cans and jars to fill one small shelf.

Scurrying around to dig up more exhibits, they discovered that the women in this area aren't doing much canning any more. Their food is going into freezers and lockers.

Sonfield Named Chairman of Bruno-New York Board

NEW YORK CITY—Election of Charles Sonfield, former president, as chairman of the board of Bruno-New York, Inc., appliance distributor here, has been announced by the board of directors.

Sonfield assumes his new duties

as chairman of the board on Jan. 1.

Also elected were Jerome Harris, president and secretary-treasurer; Irving Sarnoff, executive vice president; Gerald O. Kaye, vice president in charge of sales; and William M. Sheeser, comptroller.

We want you to meet

INTERNATIONAL HARVESTER'S

Irma Harding

Irma Harding is NEWS—big news to everyone connected with the appliance selling field—good news to homemakers all over America. For, although Irma Harding is a composite character representing all the home economics activities of International Harvester Company, she will become a very real person to the thousands of Harvester refrigerator and freezer owners who will profit by her suggestions and counsel.

This radiant new personality represents the hundreds of friendly, capable home economists, who already have conducted more than 5,000 frozen food demonstrations, coast to coast, promoting the benefits of home freezing.

Yes, you'll be hearing a lot from Irma Harding, and about the "Modern Food Magic" performed in the Harvester home economics laboratories and experimental kitchens.

INTERNATIONAL HARVESTER COMPANY

180 NORTH MICHIGAN AVENUE • CHICAGO 1, ILLINOIS

Listen to James Melton on "Harvest of Stars," CBS, Wednesday evenings

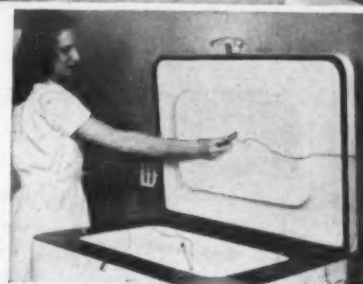
COPYRIGHT 1949, INTERNATIONAL HARVESTER COMPANY



INTERNATIONAL HARVESTER
Refrigerators and Freezers



A section of the modern Irma Harding kitchen at Harvester's Evansville refrigeration plant. Main output here is not cooking, but IDEAS that are passed on to the homemaker.



Cold temperatures are accurately measured. Thermocouple wire attached to freezer lid tests freezer temperature.

Refrigerators and freezers undergo scientific tests in the Irma Harding laboratory. Here attendant takes kilowatt-hour reading.

San Diego Refrigerator Sales Up 24% In Nov.

SAN DIEGO, Calif.—Estimated sales of refrigerators by appliance dealers in San Diego county during November were 24% higher than last year and 185% above the same month in 1941, figures released by the Bureau of Radio and Electrical Appliances of San Diego County have indicated.

Garbage disposal unit sales were up 150% over November of last year. Electric water heater sales were 14% higher and dishwasher sales 20% higher.

Freezer sales, on the other hand, were down 43% from last year. Others also behind the 1947 mark were portable washers 25%, non-automatic washers 15%, vacuum cleaners 13%, electric ranges 12%, and automatic washers 11%.

Unit volume for the November in 1948, 1947, and 1941, based on figures supplied to the Bureau, is as follows:

Appliance	Estimated Retail Sales For Nov.	Sales Nov. Last Year	Sales for Nov. 1941
Refrigerators	1,425	1,150	500
Home & Farm Freezers	200	350	*
Electric Ranges	300	340	40
Electric Water Heaters	285	250	30
Automatic Washers	400	450	*
Non-Automatic Washers	850	1,000	450
Portable Washers	150	200	*
Automatic Ironers, Consoles	165	*	*
Automatic Ironers, Portables	75	260	80
Dishwashers	60	80	*
Clothes Dryers	25	*	*
Garbage Disposal Units	375	150	*
Vacuum Cleaners	950	1,100	350

*No record.

most complete line...

Jarrow

Refrigerator Door Gaskets Are Again Made From Crude Rubber

Always Demand These Quality Gaskets

JARROW PRODUCTS

420 N. LA SALLE ST., CHICAGO 10, ILLINOIS

Requirements on Pressure Vessels, Relief Devices Changed by Underwriters' Lab

(Concluded from Page 1)

by UL, but these are to be marked to indicate design working pressure, which shall not be greater than one fifth of their ultimate strength.

Those pressure vessels of less than 6-in. i.d. will continue to be listed by UL.

Pressure relief devices, such as a relief valve, frangible disc, or fusible plug, are to be installed on all systems employing shell-type pressure vessels except for self-contained Class E assemblies (containing less than 6 lbs. of refrigerant).

Relief valves, if used, are to be set for functioning at a pressure not exceeding one fifth the ultimate strength of the pressure vessel, and the minimum required discharge capacity of such valves is to be determined by the procedures outlined in the ASA B9 Code.

When fusible plugs are used, the ultimate bursting pressure of the pressure vessel is to be at least two-and-a-half times the saturation pressure corresponding to the temperature setting stamped on the plug, or two-and-a-half times the critical pressure of the refrigerant used, whichever is the smaller. Minimum capacity requirements of such plugs are to follow the new B9 formula.

Full text of the changes as announced by UL, including also the maximum normal loading tests, and new short-circuit test requirements follows:

I. Refrigerant Pressure Vessels

Larger Than 6-In. Inside Diameter and Larger Than 5-Cu. Ft. Gross Volume.

(A) The listing of such pressure vessels by Underwriters' Laboratories, Inc. is to be discontinued and present listings are to be withdrawn.

(B) Underwriters' Laboratories, Inc. shall require that pressure vessels in this category be designed, tested, and marked in compliance with the requirements of the ASME Unfired Pressure Vessel Code when submitted as part of listed refrigeration systems.

II. Pressure Vessels Larger Than 6-In. Inside Diameter But Not Exceeding 5-Cu. Ft. Gross Volume.

(A) The individual listing of such pressure vessels by Underwriters' Laboratories, Inc. is to be discontinued and present listings are to be withdrawn.

(B) Such vessels may be accepted by the Underwriters' Laboratories, Inc. as part of a listed refrigeration system under the current requirements of the Standards for Unit Refrigeration Systems and Air Conditioning and Commercial Refrigerating Equipment.

Vessels in this category shall be marked to indicate their design Working Pressure (not higher than one fifth of the ultimate strength).

(C) These pressure vessels may be investigated by Underwriters' Laboratories, Inc. for the pressure vessel manufacturer and inspected under Re-examination Service, but not listed.

This arrangement permits a refrigerator manufacturer to purchase pres-

sure vessels meeting Underwriters' Laboratories, Inc.'s requirements for use on listed systems as has been their past practice.

(D) Vessels built and marked in compliance with ASME Unfired Pressure Vessel Code will be accepted by Underwriters' Laboratories, Inc. without test if the working pressure is suitable for the application.

III. Pressure Vessels Less Than 6-In. Inside Diameter.

(A) Underwriters' Laboratories, Inc. is to continue the listing of these pressure vessels and to recognize their use on listed systems as has been our past practice.

IV. Pressure Relief Devices—General.

(A) It was agreed that a pressure-relief device (relief valve or frangible disc) or fusible plug shall be installed on all systems employing shell-type pressure vessels except the following: Self-Contained Class E Assemblies (containing less than 6 lbs. of refrigerant).

The suitability of the pressure relief means on self-contained Class E Assemblies is to be established by fire tests, if necessary.

(B) Relief valves, if used, shall be set to function at a pressure not to exceed one fifth of the ultimate strength of the pressure vessel.

(C) It was agreed that the minimum required discharge capacity of relief valves, if used, is to be determined by the formula and test procedure outlined in the ASA B9 Code.

(D) If a fusible plug is used, the ultimate bursting pressure of the pressure vessel shall be at least two and one-half times the saturation pressure corresponding to the stamped temper-

ature setting of the fusible plug or two and one-half times the critical pressure of the refrigerant used, whichever is the smaller.

(E) The minimum required rate of capacity of a fusible plug shall be determined in accordance with the formula to be incorporated in the ASA B9 Code.

V. Maximum Normal Loading Tests.

A maximum normal load is considered to be that load which approximates the most severe conditions that may be expected in normal use. It is not a deliberate overload.

These tests will be used as a basis for determination of acceptability of motors, wiring insulation, and other electrical parts with respect to temperature.

(A) Household Refrigerating Machines and Freezers.

Test ambient—104° F. (40° C.). No load in food or freezer compartment. Unit to remain inoperative in test ambient overnight with cabinet door open. To be started in operation with door closed and run continuously (short-circuit thermostat, if necessary) until constant temperature conditions are maintained on electrical parts.

(B) Bottle-Type Water Coolers.

Test ambient—104° F. (40° C.). Temperature of water at time of filling—80° F. Unit to remain inoperative in test ambient overnight with water bottle filled. To be started in operation and run continuously until constant temperature conditions are maintained. During the test, water to be drawn at the rate of one (1) gallon per hour.

(C) Pressure-Type Water Coolers—Air Cooled.

Test ambient—104° F. (40° C.). Temperature inlet water—80° F. Unit to be operated continuously in test ambient until constant temperature conditions are maintained. During the test the rate of water flow shall be the manufacturer's established base rate for the device and there shall be complete diversion of spillage from the pre-cooler.

(D) Pressure-Type Water Coolers—Water Cooled.

Test ambient—104° (40° C.). Temperature inlet water—80° F. Temperature condenser outlet water—100° F. Unit to be operated continuously in test ambient until constant temperature conditions are maintained. During the

test, the rate of water flow shall be the manufacturer's established base rate for the device and there shall be complete diversion of spillage from the pre-cooler.

(E) Wet-Type Bottle Beverage Coolers.

Test ambient—104° F. (40° C.). Temperature of water at time of charging—80° F. The test procedure shall be the same as stated for Bottle-Type Water Coolers, except, of course, the water will remain impounded during the test.

(F) Dry-Type Bottled Beverage Coolers.

These devices to be tested the same as household refrigerating machines and freezers.

(G) Beverage Dispensers, Etc., With Impounded Water.

Devices of this type to be tested the same as Bottle-Type Water Coolers. No water to be drawn during the test.

(H) Window and Console-Type Room Coolers—Air Cooled.

Test ambient—104° F. (40° C.). Temperature condenser air inlet—104° F. Temperature evaporator air inlet—104° F. Unit to remain inoperative in test ambient overnight. To be started in operation and run continuously until constant-temperature conditions are maintained.

(I) Self-Contained Air Conditioners—Water Cooled.

Test ambient dry bulb—80° F. Test ambient wet bulb—67° F. Temperature condenser inlet water—80° F. Temperature condenser outlet water—100° F. Unit to be operated continuously under above conditions until constant-temperature conditions are maintained.

VI. Short-Circuit Test Requirements.

Announcement was made of new short-circuit test requirements to be conducted on thermal overload relays. For such devices used with motors rated at 3 hp. and smaller, the test current will be limited to 2,000 amperes. With motors rated at 5 and 7½ hp., the test currents will be limited to 3,500 amperes. These new test currents were selected after a study of circuit capacities that normally would be provided to serve motors of these sizes. Formerly the test current was 5,000 amperes.

The foregoing will be applicable to group fusing tests conducted in the future.

SOMETHING FOR EVERYBODY

... and more for you!



The Worthington line is complete in more ways than one.

It offers you a variety of equipment to cover all types of air-conditioning and refrigeration applications—allowing the selection of the proper combination for the most efficient system.

It enables you to make an installation in which all the vital components are made by the one manufacturer—assuring properly balanced operation and unit responsibility.

It is supported by top-notch engineering service, outstanding national advertising, and a complete program of sales promotion.

Find out for yourself why there's more worth in Worthington by writing Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J.

WORTHINGTON

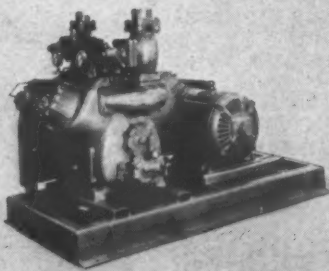
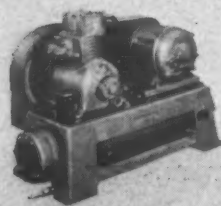


A BALANCED LINE... A BALANCED FRANCHISE

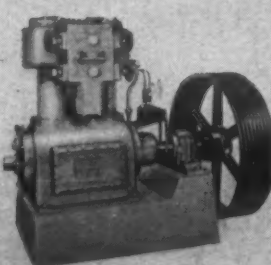
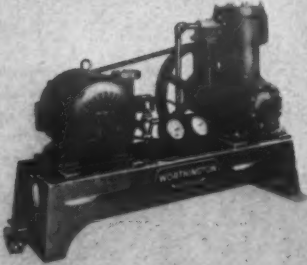


A complete line of packaged Air Conditioners—3 to 15 tons

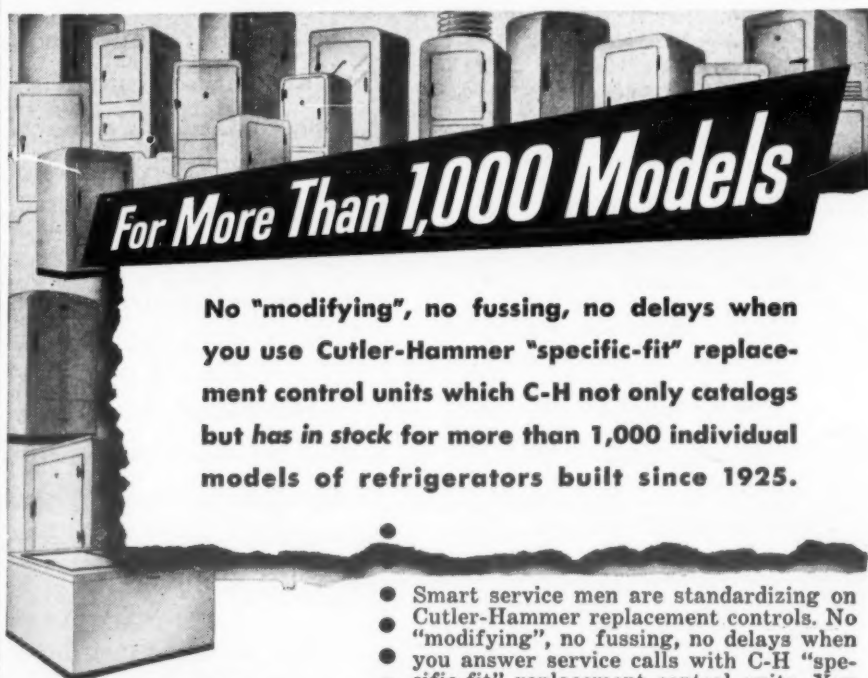
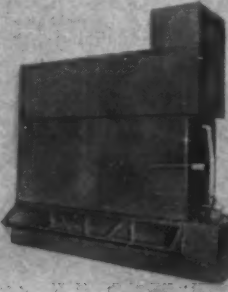
A complete line of Air Units, Evaporative Condensers, Evaporative Coolers, Unit Heaters, Wet and Dry Product Coolers for both Freon "12" and Ammonia. Also water coolers, valves, fittings and pumps.



A complete line of Freon "12" Refrigerating Machines—2 to 125 tons



A complete line of Ammonia Compressors—from 1 to 100 tons; also Ammonia Boosters



No "modifying", no fussing, no delays when you use Cutler-Hammer "specific-fit" replacement control units which C-H not only catalogs but has in stock for more than 1,000 individual models of refrigerators built since 1925.

Smart service men are standardizing on Cutler-Hammer replacement controls. No "modifying", no fussing, no delays when you answer service calls with C-H "specific-fit" replacement control units. You take out the old, put in the new... and you are through! It's the easy, sure way to do the job right because Cutler-Hammer has manufactured such "specific-fit" units for more than 1,000 models of refrigerators built since 1925. And you'll also quickly see how the widely-known Cutler-Hammer name (advertised in The Saturday Evening Post, Time, Newsweek, American Home, Better Homes & Gardens, House & Garden, etc.) builds customer confidence and good will. The C-H refrigeration control catalog, as well as the items you need, are available through your authorized C-H refrigeration wholesaler. Do not forget, this C-H refrigeration control line includes the popular general purpose two-button replacement unit (Type 9502) which incorporates dependable motor overload protection. CUTLER-HAMMER, Inc., 1362 St. Paul Ave., Milwaukee 1, Wisconsin.



Here are just a few of the "specific-fit" replacement controls in the unequalled Cutler-Hammer line.



9502N417 C-H "specific-fit" for Briggs 1937 models



9521N05 C-H "specific-fit" for Copeland 1938 models



9502N387 C-H "specific-fit" for Mergo 1932-33 models



9521N11 C-H "specific-fit" for Leonard 1937 models



9521N156 C-H "specific-fit" for Crosley 1946-1947 models

Featured by Cutler-Hammer refrigeration wholesalers and recommended by alert service dealers from coast to coast.

Schnacke Names Edwards To Supervise Sales of Refrigeration Equipment

EVANSVILLE, Ind.—John B. Edwards has been appointed to head the sales department of the refrigeration equipment division of Schnacke, Inc., the company has announced.



Formerly of Beloit, Wis., Edwards was for many years sales manager of the Lipman Div. of the Yates-American Corp. He has years of experience in both "Freon" and ammonia refrigeration equipment and in the merchandising and sales of the compressors and condensing units.

An aggressive sales program for 1949 which will be directed particularly to contractors and dealers is now being developed by Edwards.

T. J. Thomas, former sales manager, has remained with the company, establishing himself in a southwest territory with headquarters in Texas.

New Lab's Plating Room Can Have Air Change Every 90 Seconds

MATAWAN, N. J.—A new three-story partially air conditioned electrochemical laboratory specifically designed for carrying on experimental and service work in the electroplating and polishing field was recently opened here by the Hanson-Van Winkle-Munning Co.

The laboratory, covering more than 15,000 sq. ft. of floor space, is said to contain the most advanced facilities available for research and development in the industry and for helping individual companies to solve their problems.

Heart of the new laboratory is the plating room on the first floor, which is supplied with year-round air conditioning. Air in this room can be changed every 90 seconds if desired, according to the company.

Air to replace that drawn out is furnished through a louvered duct from the outside. Three exhaust blowers and one intake fan keep the room under slight pressure, thus keeping out dust and preventing contamination of plating solutions.

Current is supplied by two direct current motor generator sets, one with a 1,500 amp. capacity at 6-12 volts and the other a 500 amp., 40-volt unit.

YOUR HAJOCA BRANCH is the ONE-STOP HEADQUARTERS



for AIR CONDITIONING and REFRIGERATION

SUPPLIES AND PARTS

Hajoca stocks standard equipment for the installation and maintenance of commercial air-conditioning and refrigeration plants at Branches from New Jersey to Florida. Famous-name products like Detroit, Ranco Controls, Peerless Coils and a complete stock of pipe, valves and fittings are always on hand.

Hajoca's facilities and experience mean prompt and efficient servicing of your ordinary and extraordinary needs to keep your installation and maintenance jobs profitable.

HAJOCA CORPORATION



Pennsylvania: Philadelphia (Erie Ave. Branch) Landowne Reading
Georgia: Columbus
Florida: Jacksonville
New Jersey: Camden
Tennessee: Chattanooga

G-E Dept's LA Office Moved

LOS ANGELES—The Los Angeles office of the General Electric Co.'s air conditioning department has moved to 1233 S. Hope St., Los Angeles 15, it has been announced.

The move provides larger and more conveniently located quarters, it was said. Sales representative at the office is J. T. Johnston. Field engineer is L. T. Smith.

Servel '48 Profit More Than Double '47; Sales—\$71 Million

EVANSVILLE, Ind.—A net profit, after charges and taxes, of \$5,436,168 was earned by Servel, Inc. during the fiscal year ending Oct. 31, the company announced recently. This compared with a net profit of \$2,337,641 for the 1947 fiscal year.

Net sales of the company for the 1948 fiscal year totaled \$71,071,483 as compared with \$59,550,490 last year. Servel earned \$3 per common share this year and \$1.20 during last year.

Here's How To Prevent Solvent Illnesses And What To Do About It If You Don't

NEW YORK CITY—The "one-time" user of solvents is among the more frequent victims of solvent accidents, the Safety Research Institute, Inc. here reported recently.

Basing its statement on case reports, it added that the apparent cause is his unfamiliarity with the possible hazards, particularly vapor poisoning, and the precautions necessary to avoid trouble.

The institute asserted that to eliminate all possibility of solvent illness, workmen should be prevented from inhaling solvent vapors even during a job requiring not more than an hour or two.

It added that if the work cannot be moved outdoors or to an area where the vapors will be removed by suitable mechanical ventilation, gas masks or supplied-air respirators approved by the U. S. Bureau of Mines should be worn by the men.

The solvent should be used from closed containers and solvent-saturated rags should be dried outdoors or where the vapors can do no harm, it recommended.

If any worker develops symptoms such as dizziness, stomach upset, nausea, or a feeling of weakness, the institute advised, he should be removed from the job immediately and sent to a physician with information about the kind of solvent he was using.

Some individuals, particularly those who are addicted to alcohol, are especially susceptible, it said.

New Jamestown Dealer Opens

JAMESTOWN, N. Y.—Miles Radio & Appliance Store has been opened at 112 E. 2nd St., a new location. The firm formerly was located at 714 N. Main St.

Wholesale Operations Of Carrier Distributor To Be Handled by Heier

CHICAGO—R. J. Heier, vice president of Air Comfort Corp., distributor of Carrier air conditioning products in the Chicago area, has been placed in charge of wholesale operations of the firm, H. E. Wheeler, president, announced.

At the same time, Wheeler announced the promotion of Larry Shogren from assistant retail sales manager to manager of retail sales.

Regarding Heier's new responsibility, Wheeler said Air Comfort's wholesale business had increased to the point where it was advisable to combine all dealer activities.

Heier joined the company in 1937. He was previously with Standard Air Conditioning, Inc.

A World War II veteran, Shogren spent two and a half years as an air conditioning specialist with the Seabees.



NO MORE WAX-SEPARATION PROBLEMS HERE!

Suniso Refrigeration Oils Are Used Right at the Start by Maker of Refrigeration Compressors

At one time, compressor oils posed a costly problem for an important manufacturer of refrigeration equipment. Wax separation took place at low temperatures. Other refiners' oils were tried, with only partial success. It was not until a year ago, when a Suniso Oil was adopted, that the problem was overcome.

Shown above is the filling of a

brand-new compressor with Suniso Refrigeration Oil. This is a familiar scene in plants making refrigeration and air-conditioning equipment. They probably use more Suniso Oils than all other brands combined.

This overwhelming preference is a direct result of qualities available only in the six Suniso grades. Suniso Oils are marked by extremely low pour-

points. In many cases their wax-separation points are many degrees below industry requirements. They have unusual resistance to chemical change when mixed with Freon, methyl or methylene chlorides, and other modern refrigerants.

For a copy of the 52-page illustrated bulletin "Lubrication of Refrigeration and Air-Conditioning Equipment," write Dept. RN-1

SUN OIL COMPANY • Philadelphia 3, Pa.

In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

SUN PETROLEUM PRODUCTS

"JOB PROVED" IN EVERY INDUSTRY



FTC Asked To Consider Stronger Fair Trade Act

WASHINGTON, D. C.—Recommendations that the Federal Trade Commission investigate the possibilities of amending the Robinson-Patman Act to stop the sale of merchandise below cost were made to the 80th Congress in the final report of the House Small Business Committee.

The committee said that though the law now prohibits the sale of merchandise at "unreasonably low prices" to destroy competition a clear, legal definition of the phrase is needed. Standards must be set to determine just when sales are being made below cost, it declared.

N. Y. Firm Uses Thrift Angle To Sell Ice Makers

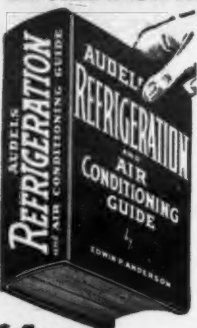
WATERTOWN, N. Y.—Ryan Plumbing & Heating Co., 156 Stone St. here, is aggressively promoting the sale of automatic ice makers to hotel and restaurant owners with newspaper advertising that points out how 8,000 cubes of ice a day can be secured at savings of up to 75%.

The plumbing firm stresses that the automatic ice makers are "convenient, handsome, and sanitary."

O'Henry's Appliance Organizes

BUFFALO—A business name has been filed in the Erie County clerk's office for O'Henry's Appliance & Furniture Store, 170 Box St., here, by Henry F. Carlson.

REFRIGERATION INFORMATION IN A HANDY FORM



NOW READY
Audel's Refrigeration and Air Conditioning Guide. Highly endorsed for Engineers, Servicemen, Shopmen. Covering modern Principles, Servicing, Operation & Repairs of Household, Special, Commercial & Industrial units. Including Freon, Quick Freezing Lockers, Water Coolers and Air Conditioning Systems.
ANSWERS YOUR QUESTIONS
128 pages, 46 chapters. All fully illustrated and indexed for ready reference.

\$4 COMPLETE • PAY ONLY \$1 A MONTH

Get This Information for Yourself, Mail Coupon Today. No Obligation Unless Satisfied. ASK TO SEE IT.

AUDEL, Publishers, 49 W. 23 St., N. Y. 10
MAIL AUDEL'S NEW REFRIGERATION GUIDE for free examination. If O. K., I will send you \$1 in 7 days; then remit \$1 monthly until price of \$4 is paid. Otherwise I will return it.

Name _____

Address _____

Occupation _____

Employed by _____ R-12

System Dries Compressed Air Used In Production Of Telephone Equipment

SYRACUSE, N. Y.—A Carrier Corp. air conditioning system, designed to remove moisture from compressed air, was recently completed for the Northern Electric Co., telephone manufacturer in Montreal, Canada. Carrier officials here have announced.

"Compressed air is used to drive small air motors and for blowing dust from radio and telephone assemblies," Carrier explained. "The moisture must be removed to keep the delicate electrical parts from rusting."

"The humid compressed air at 90° F. and 90 lbs. pressure is passed through a shell and tube cooler operated in conjunction with a Carrier compressor. The air is cooled to 45° F. and is then reheated with hot gas through a shell and tube exchanger to 70° F."

The system was designed by the Toronto office of Carrier Engineering, Ltd., which is a Carrier subsidiary and installed by its Montreal representatives, Canadian Comstock, Ltd.

A. V. Cauhorn Appointed To Handle Airtemp Line

DETROIT—Appointment of the A. V. Cauhorn Co. here as a dealer for the Chrysler Airtemp line of heating and air conditioning products for home and industry was announced here recently by A. V. Cauhorn, president.

R. J. Schuler, sales manager for the firm, will handle the Airtemp sales division, Cauhorn said.

Cauhorn noted that besides a staff of engineers, the company employs its own trained electricians, plumbers, pipefitters, and other workmen. It also maintains a complete fabricating shop and carries a full warehouse inventory of units and parts.

The Cauhorn firm, which was also recently appointed distributor of Super-Cold commercial refrigeration in eight counties of southeastern Michigan, announced that it would soon establish dealers for this line in Adrian, Ann Arbor, Pontiac, Monroe, Mt. Clemens, Dearborn, Plymouth, Wyandotte, Wayne, and Port Huron.

The company will serve Wayne, Oakland, Macomb, St. Clair, Monroe, Lenawee, Livingston, and Washtenaw counties.

'Ice Cubes Unlimited'



J. D. Faber, vice president and sales manager for Northwest Equipment Co., points out a feature of one of the company's ice cube makers.

plains sales manager Faber, "runs as high as 30% to 40%. We designed this machine to carry out two ideas which we thought any product of this nature should include."

"One was to make a machine that would freeze and store the cubes in the same compartment and, secondly, to give the customers a sub-zero storage temperature which would prevent cold loss when cubes are removed."

"Ice Cubes Unlimited" is the copyrighted slogan for this new piece of equipment which comes in several sizes and, when installed in tandem, can satisfy the largest users of ice.

The 1½ bushel maker has storage capacity for 600 cubes with three tiers of 15 trays and 210-cube capacity for each freeze. The three bushel size will hold 1200 cubes in storage with either three tiers of 15 trays providing 210 cubes each freeze or three tiers of 24 trays giving 336 cubes each freeze. The largest size, holding five bushels, has a storage capacity of 2,000 cubes, with three tiers of 24 trays providing 336 ice cubes each freeze.

The machine features stainless steel interior, automatic cube ejectors, sub-zero storage, 3-in. vapor sealed insulation, heavy duty hardware, and self-contained or remote compressor.

Each of the company officials boast a record of almost 25 years in the refrigeration field, although the Northwest Equipment company has been established only since 1937.

The firm has the Minnesota-North Dakota-South Dakota sales area for Tyler equipment and the same area, plus western Wisconsin, for the Fischman soda fountain concern.

Acme Reports Net of \$38,505

JACKSON, Mich.—A net income of \$38,505, or 19 cents per share, on net sales of \$564,734 for the quarter ending Oct. 31, 1948 has been reported by Acme Industries, Inc. here.

Western Auto Store Mgr. Named

ALBANY, N. Y.—Robert J. Wagstaff has been named manager of the Western Auto Store at 72 Central Ave., to succeed Arthur J. Evans, who has been promoted to wholesale sales representative.

3 Years of Weekly Rotogravure Advertising Boosts Sales Volume for Commercial Dealer

MINNEAPOLIS—Every week for the past three years, the Northwest Equipment Co. here, has been running pictorial commercial refrigeration advertisements in the rotogravure section of the Sunday Minneapolis Tribune.

A year and a half ago, J. D. Faber, vice president and sales manager, told the NEWS that these advertisements were paying big dividends in increased business and appeal to the merchants who needed his equipment. He still thinks so today.

These advertisements, which feature new installations of Tyler commercial fixtures particularly in meat markets and dairy stores, have been streamlined to fit the style of the rotogravure.

Uniformly three columns by 6½ in. high, the advertisements contain a large picture that occupies four-fifths of the space. The picture usually shows the case with the owner standing by. Below the picture, set in the same type as the feature picture stories of the paper, is the company's message.

These messages point out the advantages of the Tyler cases and give the name and address of the owner of the case pictured. At the very bottom and in the right hand corner is the firm's logotype.

"When people come into our display room carrying tearsheets of our roto advertisements," declared Riley T. Whitmore, president, "we know we're on the right track in building up a list of happy and satisfied customers."

Northwest's campaign, which costs the company upwards of \$8,000 per year, is said to be the first of its type in this area.

When the campaign was started in January, 1946, the company more than doubled its appropriation over 1945. Again in 1947 it doubled 1946. Sales jumped proportionately. In 1946 Northwest spent \$4,200 in

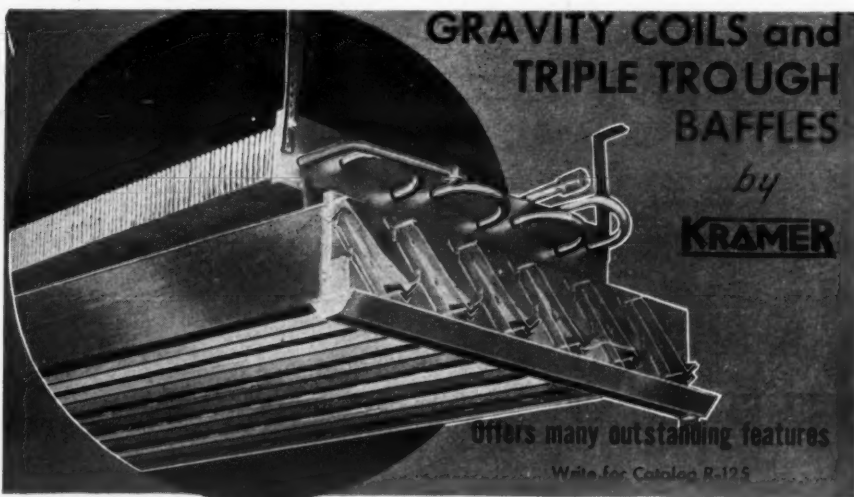
direct mail alone with literature going to every type of business that would make a good prospective customer including taverns, grocery stores, drugstores, hotels, and hospitals. The next year the budget was up to \$6,800 and in 1948 hit \$8,000.

Straight newspaper advertising was confined to the want-ad section in 1946, '47 and '48 with \$4,500, \$3,600, and \$3,600 respectively, spent on this type of advertising.

Ned Milligan, who handles the Northwest account for the Phil Bradley Advertising Agency, declared that he has found the rotogravure section of the newspaper, which is claimed to have the highest readership of any part of the paper, to be the best spot for spending advertising dollars.

Lately Northwest has started a national advertising campaign on behalf of its new product The Northwest Ice Cube Maker.

"The cube loss on shipments of ice cubes to restaurants and bars," ex-



KRAMER TRENTON CO. Trenton 5, N. J.

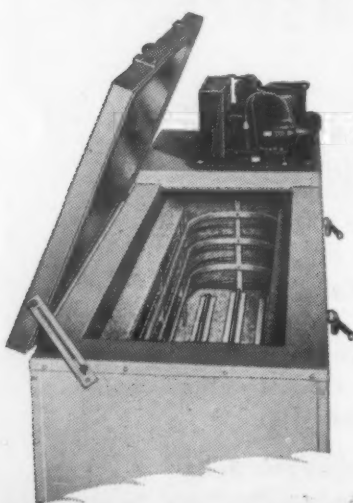
MASTER-BILT MILK-COOLERS

Products of Master Craftsmen

Powered by

Kelvinator

Hermetically-Sealed Units • Carefree Automatic Operation



Choice of 7 popular models; shown above is Model CW-4-S.

Rugged Construction Throughout Four Inches of Insulation

Much of Master-Bilt's outstanding cooling efficiency and operating economy are due to the extra thick layers of Fiberglas insulation which completely surround the inner tank. Four-inch thicknesses of this material are in the walls and two inches in the lid. It holds the cold in and keeps the warm air out.

Master-Bilt construction and operation is surprisingly simple . . . free from trouble-causing devices and gadgets. It is built to stay on the job!

DISTRIBUTORS & DEALERS—There is some territory available. Investigate this profitable field.

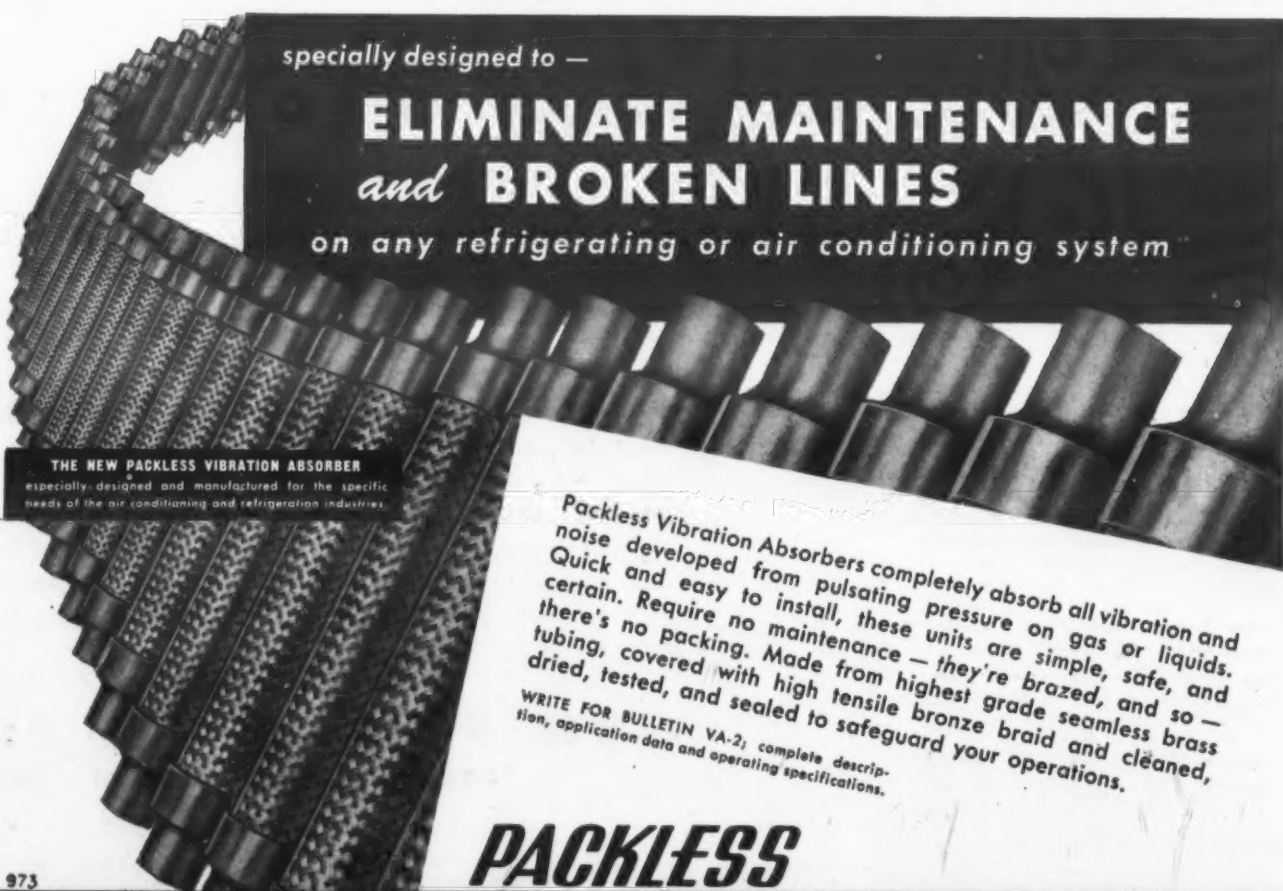


MASTER-BILT REFRIGERATION MFG. CO.
920 PALM STREET • ST. LOUIS 7, MO.

specially designed to —

ELIMINATE MAINTENANCE and BROKEN LINES

on any refrigerating or air conditioning system



THE NEW PACKLESS VIBRATION ABSORBER especially designed and manufactured for the specific needs of the air conditioning and refrigeration industries.

Packless Vibration Absorbers completely absorb all vibration and noise developed from pulsating pressure on gas or liquids. Quick and easy to install, these units are simple, safe, and certain. Require no maintenance — they're brazed, and so — there's no packing. Made from highest grade seamless brass tubing, covered with high tensile bronze braid and cleaned, dried, tested, and sealed to safeguard your operations.

WRITE FOR BULLETIN VA-2; complete description, application data and operating specifications.

PACKLESS

973

METAL PRODUCTS CORPORATION

NEW ROCHELLE, NEW YORK

Butcher Shop Converts Front Window Into 'Display Refrigerator' To Beat Sales Lag

BIDDEFORD, Me.—A former display window, converted into a huge "display refrigerator" is helping Jerry's Meat Market on Alfred St. here, to combat the problem of sales fallen off because of high prices.

When the volume dropped sharply a little less than a year ago, and salaries of meat cutters and salespeople increased, it became apparent to the management that there was only one thing to do—merchandise meat more effectively.

To accomplish this, the 40-year-old store installed new glassed-in display cases in the meat market, developed "variety package" containing six types of luncheon meat in a single unit, uniformed all employees, and began intensifying newspaper advertising.

While these methods helped, there was still one serious problem to contend with—the fact that not enough new people were coming into the meat market.

To lure more new patrons in, the conversion of 15-ft. front display window into a giant "display refrigerator" has proven a perfect answer. The window was remodeled by building a 15 by 8-ft. floor platform, in which are located six rows of finned-

type coils, thermostat and expansion valve to hold the bottom of the window at a steady 35° F.

The back and sides of the platform have been enclosed with double thickness of plate glass, with a dead-air space between, which has proven to be excellent insulation. Refrigeration for the big "box" is provided by a 2-hp. Carrier condensing unit, located beneath the window, where it receives the benefit of cool air.

Chromium hooks have been installed along three sides for hanging up quarters, hams, etc., while 14 rows of white-enameled porcelain trays are used for showing pork, lamb, beef, veal, seafoods, lobsters, and other items.

The interior of the window refrigerator is kept brilliantly lighted with cold fluorescent light, and small signs are used to play up the grade A meat in which the store specializes.

\$100,000 Marked for New Packard Ice Cube Machine

INDIANAPOLIS—Packard Manufacturing Co. here, owned by U. S. Senator Homer E. Capehart, is spending \$100,000 in experimenting, developing, and tooling its factory to manufacture a new ice cube machine soon to be placed on the market.

E. S. Diggle Elected President Of 4-State Wholesaler Group

JACKSONVILLE, Fla. — E. S. Diggle, of Columbia, S. C., was elected president of the Refrigeration Suppliers Association at a meeting held at Hotel Seminole in Jacksonville. J. W. Parker, of Atlanta, Ga., was elected vice president and H. T. Baker, secretary-treasurer.

The Refrigeration Suppliers Association is comprised of wholesale refrigeration supply companies operating in the two Carolinas, Georgia, and Florida.

Rheem Realigns Personnel, Plants To Effect Saving

SAN FRANCISCO—Plant changes and personnel reductions currently being carried out by the Rheem Mfg. Co. are expected to save the firm \$2,702,000 annually before taxes, company officials revealed recently.

The company said that it has reduced its personnel, except direct labor, by about 10%. In the belief that future sales depend on aggressive sales effort the company has spared the sales department to a great degree in these cuts.

After all the changes in its far-flung organization in this country have been completed, Rheem will have its offices at Richmond, Calif., and will operate eight plants.

These plants are located at South Gate, Stockton, and Richmond, Calif.; Houston, Tex.; New Orleans, La.; Chicago; Baltimore; and Bayonne, N. J.

Rheem has closed its plant at Birmingham, Ala.

H. G. Entress Manages McCray Refrigerator Chicago Branch

KENDALLVILLE, Ind. — McCray Refrigerator Co. has announced the appointment of H. George Entress as manager of its Chicago branch. Entress has been a refrigerator manufacturer's representative in the Pittsburgh area for the past 15 years.

Buffalo Forge Pays Dividend

BUFFALO—Directors of Buffalo Forge Co. have declared a dividend of 25 cents a common share, payable Dec. 28 to stockholders of record Dec. 20. This raised total dividends paid on the stock in 1948 to \$4 a share.

Dealer Fetes 25th Anniversary

UTICA, N. Y.—Shorer & Reardon has reopened its completely remodeled appliance store at 1704 Whitesboro St. The grand opening was held in conjunction with the firm's 25th anniversary.

Instrument Selection Aided by Revised Guide

ROCHESTER, N. Y.—A completely revised edition of "Taylor Guide to Correct Instrument Selection" has just been published by Taylor Instrument Companies, here.

In addition to giving a comprehensive bird's-eye view of the companies' entire industrial instrument line, the field of application of each type of instrument is covered as well as its principle of operation and range limits.

The illustrated bulletin is prefaced by the basic types of Taylor Instruments. Succeeding pages divide the instruments according to the variables to be measured or controlled such as temperature, humidity, pressure, flow, liquid level, force, and time cycle.

Special function instruments are treated separately and include time-schedule, pneumatic set, ratio, electric contact, remote pneumatic transmission, expansion-stem type and self-acting controllers.

Diaphragm valves, lever motors and precision valve positioning units are also included in the same section. Other pages give descriptions of mercury-in-glass thermometers for use on industrial apparatus and intermittent testing; etched-stem thermometers and hydrometers for laboratories and general industrial use; and information on Coordinated Control Systems.

Hajoca Corp. Celebrates Third Branch Opening Within Month

PHILADELPHIA — Hajoca Corp., distributor and manufacturer, with 31 sales offices and branch warehouses in eastern seaboard cities, held "open house" for 350 refrigeration servicemen, plumbing and heating contractors, and industrial buyers and engineers at its new warehouse and office building, 130 East Baltimore Ave., Lansdowne, Pa. recently.


This marks the third occasion within one month when Hajoca formally announced new branch building openings. The other two were at Jacksonville, Fla., and Philadelphia.

Refrigeration Sales Manager

For branch operation of large national manufacturer of major household appliances, America's fastest-growing brand. Applicant must be able to assume full responsibility of branch operation. Unlimited opportunity for experienced man. Write full details to

Box 3064, Air Conditioning & Refrigeration News

ANOTHER GREAT ADDITION to a great line...



OCCUPIES ONLY 6-FT. OF WALL SPACE

27-SQ. FT. OF REFRIGERATED DISPLAY SPACE

HEAVY FIBRE-GLASS INSULATION

THREE SALES-MAKING SHELVES

SELF SERVICE

INDIVIDUAL FULL LENGTH FLUORESCENT LIGHT ON EACH SHELF

INDIVIDUAL COOLING SYSTEM FOR EACH SHELF

FULL LENGTH PLATE GLASS MIRROR ON UPPER SHELF

EXTERIOR FRONT & ENDS FINISHED IN GLEAMING WHITE PORCELAIN

PRICE TAG MOLDING MOUNTED IN FRONT OF EACH SHELF

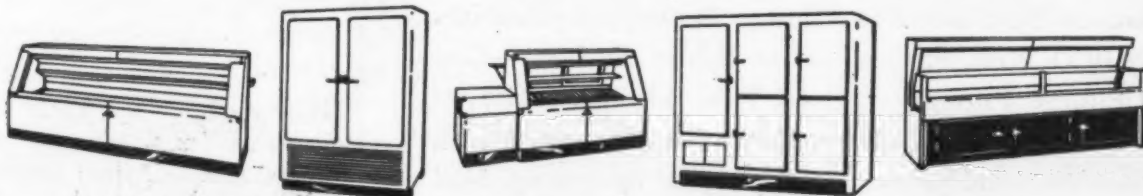
1/4-IN. THICK PLATE GLASS IN FRONT AND ENDS

UNDERWRITERS LABORATORY LISTED

MODEL 306
Three Shelf Display Case
6-ft. long, 70-in. high, 34 1/2-in. deep

For maximum refrigerated display in a minimum of floor space, this three-shelf model is perfect... just as it is in sales-making appeal, in refrigeration efficiency, in dependable service. The Model 306 is another new refrigerator in the big new KOCH line... the profit line. Write KOCH today for details and open territories.

the line of least resistance



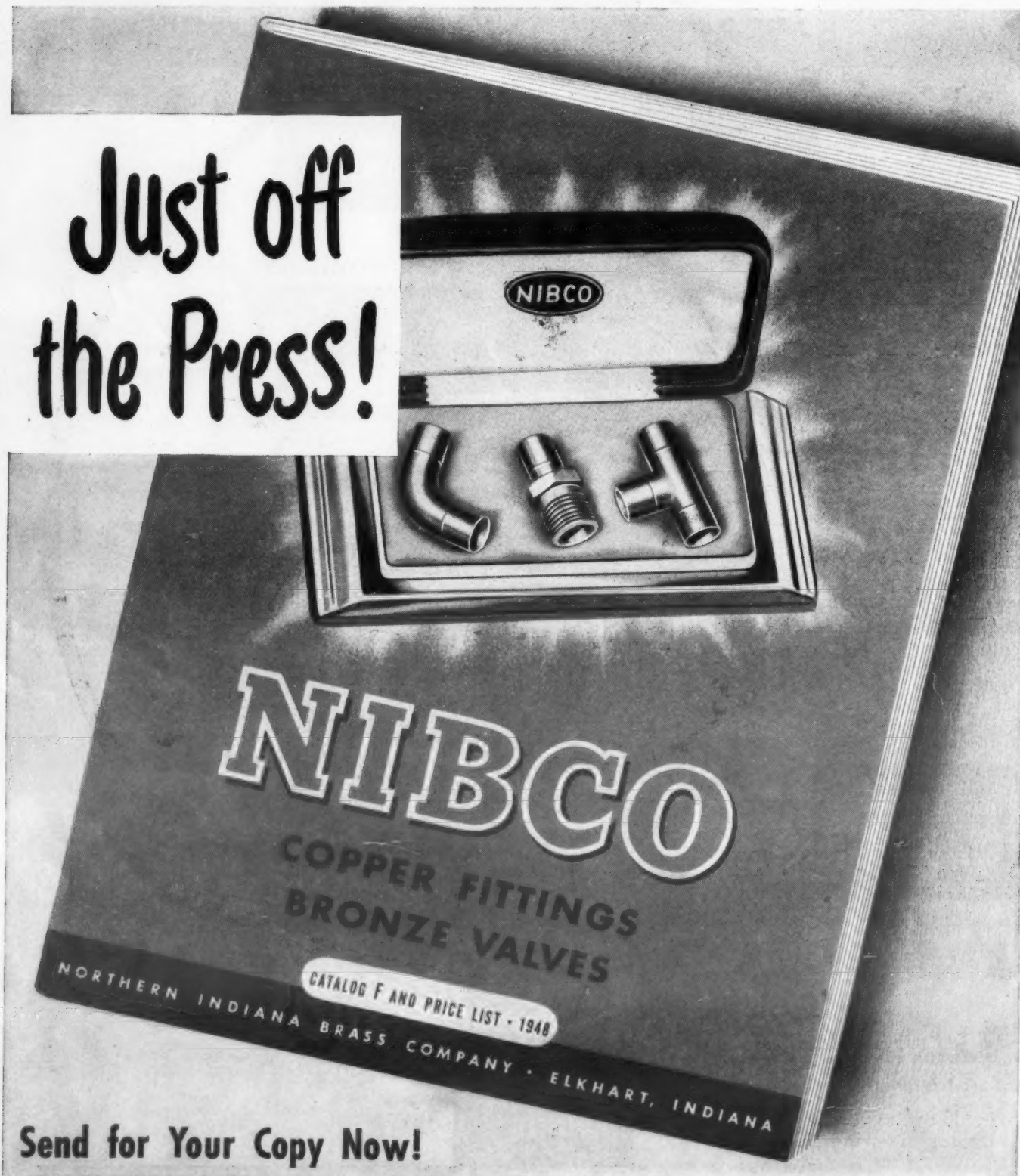
KOCH
Refrigerators
NORTH KANSAS CITY 16, MO.
SINCE 1883

They'll Do It Every Time By Jimmy Hatlo



Do You Have 'One Foot In the Door'?

Just off
the Press!



Send for Your Copy Now!

NORTHERN INDIANA BRASS CO.
101 Plum Street, Elkhart, Indiana

Without obligation to me please send a copy of your new catalog F.

Name _____

Address _____

City _____

State _____

Catalog F is a new manual of technical and selling information to aid in specifying and ordering the latest and best valves and fittings for copper plumbing. NIBCO Wrot Fittings—Cast Solder Fittings—Cast Drainage Fittings—Flared Tube Fittings—Copper Tube Valves and Refrigeration Fittings are illustrated, described and priced in this easy-to-use catalog. Mail coupon now for your copy, free and without obligation.

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark
registered
U. S. Patent
Office:
Est. 1926



Copyright
1949,
Business News
Publishing Co.

F. M. COCKRELL, Founder

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: \$5.00 per year; 2 years \$8.00. All other foreign countries: \$7.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Please send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, Editorial Director

C. DALE MERICLE, Associate Editor

JOHN SWEET, Assistant Editor
HUGH MAHAR, Assistant Editor
GEORGE HANNING, Assistant Editor
ROY DENIAL, Assistant Editor
Editorial Assistants: MARGARET DEAN,
MARGARET POMMERENING, LOUISE
GINET, AND LORRAINE MAJOR

E. L. HENDERSON, Business Manager
ROBERT M. PRICE, Adv. Representative
ALLEN SCHILDHAMMER, Adv. Rep.
ALLEN S. RUSSELL, Adv. Rep.
BETTY JANE KING, Adv. Secy.
YVAUGHN CRYSLER, Subscription Mgr.
WALTER J. SCHULER, Production Mgr.

Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 56, No. 2, SERIAL NO. 1,034, JANUARY 10, 1949

Adequate Working Capital

ONE of the most pressing problems facing specialty dealers (and other small businesses) nowadays is that of acquiring the additional capital funds they need with which to continue operating their businesses successfully. Although—and even because—their business volume may have spiraled constantly upward, the capital structures of many small businesses have been insufficient for meeting the multiple needs of operation under an inflationary economy. This fact is reported by specialty dealers everywhere.

What with increased wages and ever-mounting operating costs, almost every business in the country has found it necessary to increase its working capital during the last year or two—big business as well as little.

Furthermore, most small business enterprises are haunted by the thought that they must at all times be prepared for possible losses which could be incurred as a result of a sudden slackening of business. In other words, they need a "cash cushion for contingencies."

Other spiralling costs which frequently make heavy demands upon the dealer's cash position are those of physical improvements to, and necessary expansions of, his place of business. He feels that he must make these improvements to "keep in the swim," but they do swallow up an inordinate share of his working capital at the time he makes these cash-outlay expenditures.

First cousin to these bankbook-depletions is the expenses incurred from the erection of new business facilities to take care of the mushrooming of populations in many metropolitan and suburban areas served and protected by the dealer's franchise.

Measures to meet these extraordinary inroads upon working capital are not lacking, however. Many retail organizations find that they can add to their cash assets by selling their real estate holdings to large insurance agencies, or to other buyers—thus receiving the high prices that today's market warrants for their original real estate investments. These holdings they then rent back from the buyer on long-term contracts, usually with the stipulation that their rental payments gradually be decreased as time elapses.

Advantages of renting a store, rather than owning it outright, are considerable. In the first place, rental fees are tax-deductible annually, whereas amortization is a slow process. As a consequence, retailers who rent their business premises often find that their overhead expenses are noticeably reduced in comparison with the years when they owned (and kept up) their business premises.

And if they sell, then lease already-owned property, they can realize useful accretions of cash.

Another measure to which dealers can resort in an effort to escape the problem of insufficient capital is the selling of fixed-interest obligations in the form of sinking-fund debentures to insurance companies, to banks, or sometimes to private investors. Although this procedure increases their fixed charges, it lessens their dependence on higher-interest short-term bank credit.

Running a successful small business today is undoubtedly a challenge to the ingenuity of all specialty dealers; and no problem is so important to dealers as that of having a sufficient working capital.

Heavy dealer mortality is being predicted freely for 1949—largely because it is known that large numbers of retailers are undercapitalized. Upon how well they solve this problem depend their chances for survival.

To Get Most Capacity In Refrigeration, Coils, Compressor & Load Must Be Balanced

By C. Dale Mericle

BIRMINGHAM, Ala.—"Don't go out to buy a '50-ton' compressor. Instead buy equipment designed and sized for the job it is to do," emphasized James Irwin, chief engineer of United States Cold Storage Co., Kansas City, at a meeting of refrigeration warehousemen here.

The occasion was the recent Southeastern Regional Training Conference sponsored by the Refrigeration Research Foundation and the Southeastern chapter of the National Association of Refrigerated Warehouses.

Ably directed by H. C. "Dutch" Diehl, director of TRRF, the conference ran for four days and included morning, afternoon, and evening sessions covering many phases of refrigerated storage. Irwin's talk was the first in the series and took up "Principles of Refrigeration and Humidity Control."

CAPACITY AND SUCTION PRESSURE

"The capacity of the compressor and the motor driving it, varies a great deal with the suction pressure you have to carry," Irwin explained. "When we cut suction pressure to lower the temperature, we reduce the capacity of the compressor."

"For each stroke of the compressor we take in a certain amount of gas. A higher pressure means more gas is taken in on each stroke. This increases capacity."

"Warehousemen often wonder why they can't get capacity at low temperatures. Don't blame the engineer," he cautioned. "Maybe the engineer needs another compressor or a booster. For example, if the condensing pressure is 140 p.s.i. and the evaporator temperature is dropped from 10° to 0° F., compressor capacity for this particular job would drop from 9½ tons to 6½ tons. As you drop the evaporating temperature your capacity takes a beating."

"Lower temperatures also take a lot more power and kilowatts," he went on. "There's economy in operat-

ing at the highest possible suction pressure permissible with the job."

On a system with a 140-lb. condensing pressure, a suction pressure of 25 lb. takes 1.15 hp. while 10-lb. suction pressure requires 1.60 hp., he explained.

Discussing coils, Irwin outlined three basic types of bunker storage cooling as follows:

"(A) A bunker room where air is cooled outside the storage rooms and the cooled air is circulated by fans through ducts to and from the storage room or rooms.

"This works very well with several rooms holding the same commodity, such as apple storage. Dampers can regulate the amount of cold air coming into the rooms, and it is easy to control air temperature. Moisture can be added to the air after it passes the coils to achieve high humidity. Dehumidification is also easily arranged.

"(B) A small bunker can be constructed at one end of a room and equipped with a fan. You can get high capacity with high air velocity. This type of room can be used for freezing.

"(C) A single bunker can be arranged in a large room with a duct system to distribute the air. This system is used extensively in citrus storage, especially for lemons."

HOW MUCH COIL SURFACE?

As for the amount of pipe coil that should be in a storage room, Irwin explained that this depends on several factors, such as load, refrigerant temperature, temperature difference desired between refrigerant and room air, and the "K" factor of the coil.

"The K factor," he explained, "refers to the heat transfer coefficient of the coil, and is extremely important."

K factors, as expressed in B.t.u. per hour per square foot of coil surface, for various coils under varying conditions were given by Irwin as follows:

K Factor of Brine Coils In Still Air	
With 5° T.D.	1.5
With 15° T.D.	2.75
With 25° T.D.	3.3

K Factor of Brine Coils In Moving Air	
At 200 f.p.m.	2.9
At 400 f.p.m.	5.0
At 600 f.p.m.	5.9

K Factor of Direct Expansion Coils In Still Air		
	Partially Flooded	Flooded
5° T.D.	1.0	1.3
15° T.D.	2.2	2.9
25° T.D.	2.7	3.6

K Factor of Direct Expansion Coils In Moving Air		
	Partially Flooded	Flooded
At 200 f.p.m.	2.3	3.3
At 400 f.p.m.	4.2	5.6
At 600 f.p.m.	5.7	7.7

This data, Irwin pointed out, had been developed for presentation at this and similar conferences by Paul Christensen of Merchants Refrigerating Co. and came from W. H. Motz' *Principles of Refrigeration*.

In presenting these figures Irwin also emphasized that while coil requirements are obviously reduced with the greater temperature difference, a higher T.D. cuts suction pressure and therefore increases

horsepower requirements and kilowatt consumption.

"The final selection is always a compromise. Best efficiency of the whole system is obtained when the coil balances the compressor capacity. Too high a coil capacity (at low suction pressure) may find the compressor capacity is far under the coil capacity, and vice versa."

"Suppose," Irwin continued, "you had a big load brought in. Don't put it all in one room. Spread it out over several rooms to obtain the full effectiveness of coils without going beyond the capacity of the compressor. This fact isn't appreciated as much as should be."

Frost on coils "can't be overlooked, either," Irwin went on. "An inch of frost could cut coil capacity by half. However," he said, "if coils are bare of frost when starting to cool down a load, building up of frost after the holding temperature of the product is reached doesn't matter so much because less capacity will be needed."

HUMIDITY VERY IMPORTANT

"Humidity likewise is very important in refrigerated storage," commented Irwin as he briefly outlined for the warehousemen the basic principles of the psychrometric chart.

"We are particularly interested in the tendency of moisture in our products to evaporate. Lowered temperatures cut vapor pressure, and water vapor always tends to go to a cold area, such as coil surfaces. Colder coils mean a greater tendency of moisture to migrate from the product and the air to the coil. Therefore, we should have a large coil surface at a small T.D. to minimize moisture migration."

Taking up the problem of refrigeration loads in general on a freezing

room or holding cooler, Irwin listed the following sources of heat: (1) leakage through walls, (2) door opening, (3) men working in room, (4) fans, (5) lights, and (6) heat load of the product being cooled.

"Fruits offer an additional heat factor as compared with meat. The heat of respiration in apples, say, is a considerable factor in the storage of this item. Heat of respiration is almost half of the heat leakage of the room, etc., after the field heat has been removed," Irwin said in giving a typical load breakdown for an apple storage room.

The figures cited concerned an apple room measuring 200 x 60 x 10 ft. in size with 4-in. insulation. Its capacity was 35,000 boxes, which were received at the rate of 3,000 a day. The room was held at 32° F. with the outside temperature being 70°. The load was broken down as:

	(Tons)
Building heat gain	8.5
Incidental heat gain (lights, etc.)	1.8
Air infiltration	1.3
Heat of respiration of apples ..	5.5
Field heat removed from apples ..	17.8

Total refrigeration load

34.9

Asked how he kept the humidity high in some rooms where it was essential, Irwin explained his firm uses an electric water evaporator.

"If we evaporate about three times as much water a day as the air in the room can absorb, we can get the relative humidity up to 93%."

When we get perfectly sealed products, however, we can neglect humidity," Irwin pointed out. "We've got to educate our customers on packaging. They can do much more that way to cut humidity losses than we can with refrigeration."

Better refrigeration in sight with Bundyweld* Tubing

You'll see at a glance that Bundyweld is the most practical tubing you could possibly choose for your refrigeration tubing needs.

Available in steel, Monel, or nickel, Bundyweld's marked superiority is found in its double-walled construction. Made from a single strip of metal, double-wrapped, and copper-brazed at all points of wall contact, Bundyweld offers extra-strong yet thin walls for faster cooling.

Always held to close dimensions, Bundyweld is easy to cut, join, or bend to short radius turns without

fear of collapsing. An ideal tubing for compressor lines, connecting tubes, and condenser and evaporator coils, Bundyweld is available at a surprisingly low cost.

Used in over 85% of all refrigeration equipment manufactured, Bundyweld may be the answer to your tubing needs.

Read the story of how Bundyweld is made, across the bottom of this page. Then contact your nearest Bundy representative (listed below), or write: Bundy Tubing Company, Detroit 14, Michigan.



WHY BUNDYWELD IS BETTER TUBING

1 Bundyweld Tubing, made by a patented process, is entirely different from any other tubing. It starts as a single strip of basic metal, coated with a bonding metal.

2 This strip is continuously rolled twice laterally into tubular form. Walls of uniform thickness and concentricity are assured by close-tolerance, cold-rolled strip.

3 Next, a heating process fuses bonding metal to basic metal. Cooled, the double walls have become a strong ductile tube, free from scale, held to close dimensions.

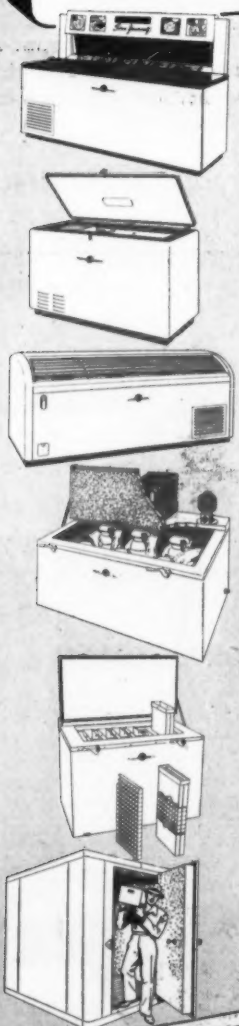
4 Bundyweld comes in standard sizes, up to 5" O.D., in steel (copper or tin coated), Monel or nickel. For tubing of other sizes or metals, call or write Bundy.

BUNDYWELD DISTRIBUTORS AND REPRESENTATIVES

Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Philadelphia 3, Penn.: Rutan & Co., 404 Architects Bldg. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 3628 E. Marginal Way • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 881 Bay St.

BUNDYWELD NICKEL AND MONEL TUBING IS SOLD BY INTERNATIONAL NICKEL COMPANY DISTRIBUTORS IN PRINCIPAL CITIES.

The Victor now and in any year



One of the oldest and largest manufacturers of commercial refrigeration (we could say most famous too) presents its 1949 line.

The models sketched were pictured in an earlier issue of this publication and many of you readers are familiar with them.

To alert, aggressive distributors who realize that "order taking" is over... real selling is back...Victor presents this quality line, sales styled for accelerated selling.

1949 will be a year of rewards for the real salesman.

Supporting your aggressive sales efforts will be Victor's national magazine advertisements in America's leading publications.

Enterprising organizations, well financed and able to form distributorships will "phone, telegraph or write to J. K. Noel, Jr. for prompt details on how Victor will lead you along the brighter path to profits.

DISPLAY CABINETS • MILK COOLERS
BEVERAGE COOLERS • WALK-INS
QUICKFREEZERS • ICE MAKERS

***VICTOR PRODUCTS CORPORATION**
HAGERSTOWN, MARYLAND



Mexico Battles Nature, Ignorance To Gain Higher Standard of Living for Its People

By Eugene Heszy, International Market Analyst

Mexico has a complicated geographic, political, and economic structure. The country has high mountains and low plains, good climate and bad climate, an active population, and a huge number of slow-thinking and slow-moving people. Mexico is very rich and very poor.

In order to understand the economic possibilities of this, our immediate southern neighbor, we shall look first into the basic facts of its economic geography.

Mexico has an area of 758,000 square miles, which is about one quarter of that of the United States. At the end of the Second World War, the population consisted of 22,200,000 persons, of which 15% were white, 29% Indian, 55% mestizo, and 1% of other races. Eighty-six per cent of the population speaks Spanish; 14% still uses the Indian language.

If we look at the main, northern part of the Mexican state, we observe the country as having the form of a gigantic "V."

POPULATION CONCENTRATES ON PLATEAU

This letter "V" contains almost parallel to its two sidelines two large mountain ranges, which are the geological continuation of our Rocky Mountains to the south or the South American Andes to the north. The base of this enormous "V" contains a high plateau, which, through its height, helps to make climate and living conditions more tolerable.

This configuration is the reason that many of the great centers of population and culture and, therefore, also of commercial activity are concentrated on this huge plateau in the center of which we find Mexico City, the metropolis and capital, with nearly 2 million inhabitants.

However, quite a number of other centers of mining or industry have grown up in distant regions, aided by local resources or other dominant economic factors. It will be shown later that in the North, the district of Monterrey (215,000) has become a mining and industrial center of vast importance, and that on the East coast, the cities of Veracruz and Tampico owe their active commercial life to their situation at or near the coast, on the lifeline of Mexico's international trade.

The once flourishing oil industry of the country, which had, before 1938, played a major role in supplying part of the world oil markets and which is now, at last, beginning to come into its own again, formed a vital contributing factor in the formation of these eastern commercial centers.

VERY LITTLE USABLE LAND

What have been the causes of the great possibilities and the enormous difficulties observed in the economic emancipation of the country?

Mexico possesses an abundance of minerals, consisting partly of precious metals, especially silver, and partly of base metals (among which are iron and lead), and petroleum. Unhappily, only a relatively small percentage of the country, estimated at 25%, can be used—and a still smaller part is actually being used—for agricultural and pastoral activities.

The remainder of the land is to a large degree composed of mountains

and to a small extent jungle or tropical swamp. The latter formations are, of course, mainly to be found to the south of the "neck" of the country.

Another basic drawback of the agriculture of Mexico was the concentration on corn, which was at last checked by switching to other crops also. The pastoral industries have been systematically built up during the last decades, right into the period of office of the present president, Miguel Aleman.

It may be interjected here that Mexico has found in Senor Aleman a man with a fine character, wide business experience, and energy, and used to taking a long view of the problems of his country. He also has a good understanding of the possibilities of cooperation with the United States and entertains very friendly relations with us.

Apart from the mineral resources and the agricultural and pastoral productive possibilities, Mexico also has a young and energetic industry. Still more important for the foreign exchange situation, it has a very extended invisible export in the form of North American vacationists who are spending in good years 50 million dollars within Mexico's boundaries, and sometimes even more.

The resources and young industries of Mexico have so far not been fully developed on account of the strongly diversified composition of the population. The very large proportion of the native and mixed element goes a long way to explain the lack of understanding for regular working habits.

PROGRESS OUTSIDE CITIES IS SLOW

Of course, a very large number of Mexicans of white and native races are contributing to a national production which helps to raise the standard of living slowly but steadily.

However, the great majority outside the larger cities, who are responsible for the production of the soil, are heirs to a primitive Indian civilization. They, originally, did not have the slightest understanding of modern production methods.

Thus, it will be understood that progress outside the centers of population is slow and difficult. Senor Aleman is trying to fight illiteracy with very modern and even original methods. He is making progress in this field, too.

One more drawback to greater speed in progress must be traced to the labor situation in Mexico. This aspect is treated here with special regard to the formation of affiliated factories of American air conditioning and refrigeration equipment companies. Just at this time of writing, such projects appear to be under serious consideration.

Up to 1938, the general attitude of labor in Mexico had become more and more obstructive. Undermining by leftist elements led to sharp antagonism against those persons and groups who carried the financial risk of Mexican industry.

Since the Mexican oil interests were dominated by four groups of companies, directed by and using the know-how of four different foreign countries, the general defiance of labor was directed against those foreign companies. Directly affected

were American, British, Canadian, and Netherlands interests.

The climax came, when, in 1938, the entire oil properties of all foreign nationals were taken over by the government. Those persons who had risked their capital to develop Mexico's mineral resources were forced to accept limited monetary compensation, after a long, drawn-out waiting period and legal battle.

Despite strenuous efforts by the same radical labor leaders, who are trying to sow unrest in many other countries, the Mexican labor situation has, since 1938, taken a decided turn for the better.

World War II was a contributing factor. Mexican production was accelerated and the United States, with its allies, paid promptly and liberally for the much-needed output of Mexican silver and lead mines, petroleum wells, and pastoral industries.

Washington did its best to help this young, upcoming, industrializing nation to get and stay on its feet and has succeeded in giving the standard of living in Mexico, during these last 10 years, an important boost.

American firms have also gone South and are expending their capital, experience, and energy to help Mexico with its modernization program.

WHAT ABOUT DOLLARS?

Now, relative peace has been restored at some of the large production centers of the Mexican mining industry. The oil wells are once more increasing their production and helping to reduce the need for foreign exchange, making imports of petroleum derivatives largely unnecessary, and, as we hope, leading to appreciable foreign exchange receipts in the future.

Despite this improving picture, imports from American industry, including refrigeration equipment, are directly dependent upon the capacity of Mexico to pay for our product in U. S. currency. How does the dollar situation in Mexico shape up?

World War II brought an influx of unprecedented amounts of dollars to the Mexican chest. At the end of the war, the situation was very favorable, perhaps too favorable. Consequently, a buying spree for American equipment commenced, which partly helped in the quicker construction of factories and housing, and supplied many Mexicans with

Gov't Pamphlet Aids Electrical Manufacturers

WORLD ELECTRICAL CURRENT CHARACTERISTICS

City	Country	Type of Current		Phase	Cycle	Voltage
		A. C.	D. C.			
Aachen	Germany	A. C.		3	50	220
Abadan	Iran		D. C.	—	—	220
Abaceté	Brazil	A. C.		3	50	120/220
Aberdare	Wales		D. C.	—	—	230/460
Aberdeen	Scotland	A. C.		3	50	230/400
Abidjan	Ivory Coast, Fr. W. Africa		D. C.	—	—	220/440
Abutig	Egypt	A. C.		3	50	220
Accra	Gold Coast, Br. W. Africa	A. C.		3	50	220
Adelaide	Australia	A. C.		3	50	220
Adoni	India	A. C.		3	50	220
Agra	India	A. C.		3	50	220
Ahmedabad	India	A. C.		3	50	220
Ahwaz	Iran		D. C.	—	—	220
Ajaccio	Corsica		D. C.	—	—	220
Alagoas			D. C.	—	—	220
Alausi			D. C.	—	—	220
Alexandria			D. C.	—	—	220

Pictured is a portion of the first page of tables on electrical current characteristics in several hundred foreign cities.

Current Characteristics Of Foreign Cities Listed

DETROIT — A 30-page pamphlet listing electrical current characteristics of foreign cities and countries has been issued by the Office of International Trade, U. S. Department of Commerce.

The two-part report was prepared as a reference for electrical manufacturers, exporters, and others. First part of the pamphlet consists of a list of foreign cities and their principal lighting voltages. The second part indicates the predominating voltages of various countries.

Copies of the pamphlet may be obtained from the district office, 1038 Federal building, Detroit 26, Mich.

Crosley Adds Hawaii Distributor

CINCINNATI — Appointment of Coleman Co., Inc., Ltd., of Honolulu, Hawaii, as exclusive Crosley distributor for the Territory of Hawaii was announced recently by Tye M. Lett, Jr., Crosley export director. Ford Denslow is manager.

Ranco... for WATER COOLER REPLACEMENTS

THE BERYLLIUM COPPER POWER ELEMENT
Used in All Ranco Controls

Ranco Inc.
COLUMBUS 1, OHIO

World's Largest Manufacturers of REFRIGERATION CONTROLS

Choosing the right control is the most important part of any replacement job. Your Ranco wholesaler will be glad to help you select the right control from the complete line of Ranco precision-built controls. The Ranco KW-413, for example, is designed especially for use on water coolers, with lowest cut-out at 29° F., highest cut-in at 65° F. Ask your Ranco wholesaler to show you why it's smart to check with Ranco first.

MAXIMUM SENSITIVITY

Another exclusive Ranco "first," the beryllium copper power element, now on all Ranco Controls, provides maximum sensitivity and positive action—insures temperature accuracy within new low limits.

EYE CATCHER

Outstanding in the display case field, the SHERER Model 500 offers food merchants—

WORKABILITY—easy to work out of

VISIBILITY—customer sees all the display

CAPACITY—3 platters deep on one shelf

BEAUTY—gracefully rounded contours

It has everything expected in a good meat case.



REFRIGERATED MERCHANDISERS

SHERER-GILLET CO., MARSHALL, MICHIGAN

WANTED

Sales Engineer-Commercial Refrigeration Coils

We require a representative to travel the states of Indiana, Michigan and Ohio, including parts of Kentucky and Pennsylvania.

He must have the following qualifications:

Thorough knowledge of commercial refrigeration and coils in particular. Graduate engineer preferred.

Must intimately know manufacturers and jobbers in the area.

Past record must bear strict investigation.

Age—35-45.

To the right man this position offers a permanent connection, with substantial remuneration.

One other line can be handled providing it meets with our approval.

Your reply will be treated strictly confidential.

BETZ CORPORATION
HAMMOND, INDIANA

Proper Freezing, Low-Temp Storage of Meat Shown To Have Effect on Taste

BIRMINGHAM, Ala.—Because ice crystals will grow in frozen meats at conventional storage temperatures, and frozen meats have to be tempered to 25° F. for slicing, "I question now the importance of quick-freezing meats at -40° F.," says C. K. Wiesman, director of development for Armour & Co.

This statement was made by Wiesman in a discussion on "Storage of Meats" presented during the Southeastern Regional Training Conference held here for refrigeration warehousemen as sponsored by the Refrigeration Research Foundation and the Southeastern Chapter of the National Association of Refrigerated Warehouses.

"The rate of freezing is a question of economics. If production must be high, quick freezing at -40° will give a quicker rate than -20°. But because of the need for tempering up to 25° for slicing, freezing at -20° is apparently okay," Wiesman declared.

"There's also been a lot of publicity about freezing serving as a 'tenderizing' process for beef. Freezing will tenderize beef, if the meat is cut in thin slices and frozen at -90°. So, the idea is impractical," he emphasized.

"In general, freezing doesn't improve the quality of meat. You have to start with good quality meat of low bacterial count in the first place. Warehousemen should check shipments of meat when received. Temperature and condition of fresh meat should be checked, but it is a little harder to check frozen meats.

"In storage of frozen meats temperature fluctuation should be kept at a minimum, because this cuts the storage time. Also, if you can keep the relative humidity up to 95% in a room holding frozen meats you'll have much better results. How to achieve that humidity, I wouldn't know," Wiesman admitted. "Likewise, it's quite a problem just to determine the relative humidity in a low-temperature room."

Commenting on the freezing of hams, which one warehouseman said he did to hold Army smoked ham, Wiesman declared that his method was "probably the best way out of a bad situation."

"After two months' storage time our so-called experts can detect rancidity in frozen hams, yet some people have preferred the taste, under test, of rancid and moldy frozen hams and bacon. You can, however, hold canned hams at 38° to 40° for some time. I've tasted some after two years that was very good.

"Frozen pork sausage can be stored, but it won't taste anything like fresh pork sausage. It may be all right, but we don't recommend it. We suggest that instead of freezing sausage you freeze the sausage materials. And then when making up sausage don't use 100% frozen materials.

"You also know that you have to

vary the condiments used in pre-cooked frozen foods. Less onion is used, for example, because after freezing and storage the onion flavor becomes predominant."

Some comments on Armour's experiences with frozen, pre-packaged meats were also made by Wiesman during the discussion.

Merchandising of specialty items like liver, brains, and hearts can be "considerably improved" by freezing, he pointed out. Such products can be "dressed up" by freezing and neatly packaging them, it was indicated. This also applies to oxtail joints, sweet breads, kidneys, tripe, hamburger patties, and cubed meat items. With the latter a pouch is used in packaging for extra protection of the product.

Considerable progress in institutional size pre-packaging of frozen meat has been made, he indicated.

Selling Farmer Need for Greater Efficiency Seen Boosting Freezer Volume

WEST LAFAYETTE, Ind.—A survey of farmers in adjacent Benton County by Purdue university agricultural economists to find out what community services and what household and farm equipment are wanted by farmers today, were revealed here recently.

Leading household articles wanted by the farmers include home freezers, hot water heaters, automatic water systems, electric stoves, vacuum cleaners, furnaces, electric wiring, and bathrooms.

Community services most wanted include mobile machinery repair service, electrical repair service, custom slaughtering, and fence building service.

Consensus of both the agricultural economists and the farmers interviewed is that the rural market is not given enough attention by ap-

pliance and other merchandising and service organizations.

The economists said the farmers will buy if they are sold on the need of new and efficient household appliances and other farm equipment. The sales methods to be employed are up to the distributors. The survey indicated that a better market exists on the farm than many merchandisers believe.

Pacific Names Distributor For Air Conditioning Line

CLEVELAND — Appointment of Domestic Heat & Equipment Corp. here as wholesale distributor in northeastern Ohio for Pacific packaged air conditioning equipment has been announced by Pacific Mfg. Co. Domestic will handle installation and service of the Pacific line for the greater Cleveland area and will have a program for working closely with its service-equipped dealers in other cities, according to Pacific.

Its territory will range from Erie, Pa. to Sandusky, Ohio.

New Plant To Provide Added Fruit Storage for New York Rural Areas

WILLIAMSON, N. Y.—A modern 100-ft. freezer plant is being constructed here, adjacent to the present Williamson Storage and Ice plant. It will give Williamson one of the largest cooler and freezer plants in the rural areas of western New York.

This new freezer will have a capacity of approximately 100,000 cu. ft. of freezing space and will be used by area farmers for freezing fruit crops, such as cherries and strawberries. Frozen foods in transit will also be stored here for short periods according to Olif Tassel of Williamson, who is generally supervising this new project.

Plans call for completion of this first freezer unit by next June 1. A second freezer unit, which would add another 100,000 cu. ft. capacity to the Williamson plant, is being contemplated.

Freezing Facts by Super

Weight versus Quality

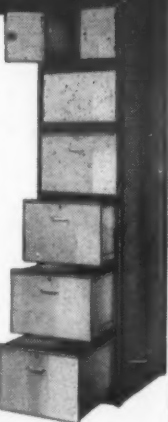
That old saw, "It takes a lean horse for a long race," is being proved today by research. When Servel started producing condensing units, more than a quarter century ago, a 1/4-HP model weighed approximately 200 pounds. Today the Servel Supermetic, a hermetically sealed precision-built unit, has a crated weight of only 105 pounds, scarcely more than half the weight of the 1921 model pictured.



ASE FROZ-N-FOOD LOCKERS

Designed to provide these profit-making advantages to the locker plant operator—

- Variety of types and sizes.
- Easy to rent.
- Easy and inexpensive to install.
- Easy and inexpensive to maintain.
- Sturdy and durable construction.



Drop us a postcard for additional details.

Obtainable in Black and White or Green and Ivory...

ALL-STEEL EQUIPMENT INC.
250 Griffith Avenue • Aurora, Illinois

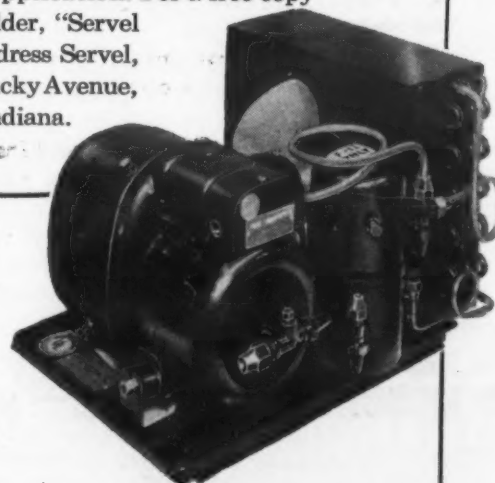
SERVEL SUPERMETIC is not only lighter in weight; it is smaller in size—requires less space. This means a considerable saving in transportation expense. What's more, it will last longer. With top-quality construction, Supermetic does more work at less cost. Its dependable, trouble-free performance reduces maintenance expense. All these advantages were made possible by design improvements, high-quality materials and the utilization of latest production methods. This modern use-tested unit offers more selling features. "Forced-feed" lubrication con-

stantly protects every moving part of the motor-compressor assembly. It is completely sealed against dust or moisture. Troublesome mechanisms have been eliminated. Servel Supermetic has no belts, pulleys or seal. It's simple to install, easy to check.

Servel Supermetic is available in all sizes from 1/4 HP through 3 HP, designed to fit every popular application. For a free copy of illustrated folder, "Servel Supermetic," address Servel, Inc., 1901 Kentucky Avenue, Evansville 20, Indiana.

More than a hundred thousand satisfied users testify to the quality of Servel Supermetic units, the broadest and most versatile line of hermetically sealed units designed for every popular commercial application.

- | | | |
|-------------------|--------------------------|------------------------|
| 1. Store Fixtures | 4. Beverage Coolers | 8. Farm Freezers |
| 2. Milk Coolers | 5. Vending Machines | 9. Water Coolers |
| 3. Home Lockers | 6. Room Coolers | 10. Industrial Cooling |
| | 7. Vehicle Refrigeration | |



Servel Supermetic Units Are Available In All Sizes

* STANDARD COMMERCIAL

HORSEPOWER	MODEL	NO. CYL.	CONDENSER TYPE
1/4	H2N	2	air-cooled
1/2	H2M	2	air-cooled
1/2	H2B	2	air-cooled
3/4	H2R	2	air-cooled
1	WH2R	2	water-cooled
1	H4F	4	air-cooled
1	WH4F	4	water-cooled
1 1/2	H4T	4	air-cooled
1 1/2	WH4T	4	water-cooled
2	H6R	6	air-cooled
2	WH6R	6	water-cooled
3	WH6J	6	water-cooled

Illustrated at left is a 1/4-HP air-cooled hermetically sealed model.

*Most sizes available also in low- and high-temperature types.

Servel

SUPERMETIC

EASIER THAN LIGHTING A MATCH

You save time . . . avoid confusion and get speedy delivery when you order from the RSI Catalog. No need to write lengthy descriptions . . . just jot down the special RSI catalog number and your order is finished.

Send us an order today.

Use your letterhead, please.

REFRIGERATION SERVICE, INC.
West Coast Wholesaler since 1928
3109 Beverly Blvd., Los Angeles 4, EX. 3111

insist on
genuine

Marlo

products

MARLO-HEAT TRANSFER
Since 1925

WILSON
REFRIGERATION, INC.

- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC.
SMYRNA • DELAWARE

Necessity for Refrigeration In Processing, Storing and Delivering Dairy Products Cited

BIRMINGHAM, Ala.—Importance of keeping milk and other dairy products under refrigeration was stressed at the recent Southeastern Regional Training Conference for refrigeration warehousemen held here in discussions led by Prof. John J. Sheuring of the University of Georgia.

"I feel that the southern part of the country will eventually be the real center of the nation's dairy industry, but at present there is still a deplorable lack of technically trained men," he told the conference, which was sponsored jointly by the Refrigeration Research Foundation and Southeastern Chapter of the National Association of Refrigerated Warehouses.

"Milk is nearly a complete food for human beings, but it is also a complete food for bacteria," Sheuring said. "Preservation of milk must start on the farm, where it should be cooled immediately to 40° F.

"The problems involved in the dairy industry are unique in the respect that milk is one of the most complex foods known and is extremely subject to spoilage resulting from many factors. The investment in equipment and personnel required to keep milk products from spoiling is tremendous.

"To fully understand the factors involved in preservation of dairy products, knowledge of the composition of milk is essential," Sheuring declared.

"A common definition of milk is the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained 15 days before and 5 days after calving, or such period as may be necessary to render the milk colostrum free.

ANALYSIS OF MILK

"Cow's milk usually consists of about 87.0% water, 4.0% milk-fat, 3.0% casein, 0.5% albumin, 4.8% lactose, and 0.7% ash.

"The fat of milk is a mixture of glycerides of the following acids: butyric, caproic, caprylic, capric, lauric, myristic, palmitic, stearic, and oleic. All of these acids are saturated except oleic which is present in the greatest relative amount.

The proteins of milk consist of casein, lactalbumin, and lactoglobulin and exist in colloidal suspension. These proteins are composed of the elements; carbon, oxygen, hydrogen, nitrogen and traces of iron, sulphur and phosphorus may be present.

"The only carbohydrate present in milk is lactose or milk-sugar. Lactose is a disaccharide which upon hydrolysis forms two monosaccharides, glucose and galactose. Lactose may, also, be decomposed by bacteria yielding lactic acid.

"The ash of milk is composed of calcium, phosphorus, sodium, potassium, iron, magnesium, carbon, chlorine, silicon, copper, and iodine.

Table I—The Effect of Temperature and Time on the Growth of Bacteria

Time In Hours	50° F.	60° F.	70° F.
Start	3,000	3,000	3,000
2	3,000	3,000	4,000
4	3,000	3,000	4,000
6	3,000	4,000	5,000
8	4,000	10,000	160,000
10	4,000	20,000	360,000
24	4,000	97,000	760,000
26	8,000	146,000	294,000,000
28	10,000	242,000	540,000,000
30	10,000	900,000	720,000,000
32	12,000	800,000	1,560,000,000
34	13,000	1,920,000	sour
48	14,000	48,000,000	
50	16,000	56,800,000	
52	23,000	69,600,000	
54	40,000	76,600,000	
56	350,000	100,000,000	

ties by destroying harmful bacteria and enzymes present in milk. Proper cooling will aid in maintaining the milk in a good physical state and in prevention of microbiological growth.

"Some objectionable flavors that may be minimized by proper heating and cooling of milk are maltiness, souring, bitterness, oxidized, and rancid.

"Milk should be rapidly cooled on the farm, again after pasteurization and kept cold until consumed.

PROBLEMS IN FROZEN MILK

"The storage of milk by freezing was practiced during World War II but was not very successful," Sheuring said.

"Freezing of milk tends to destabilize the proteins which causes curd separation upon thawing. Freezing of unhomogenized milk, also, will encourage fat separation and oiling off when the milk is thawed.

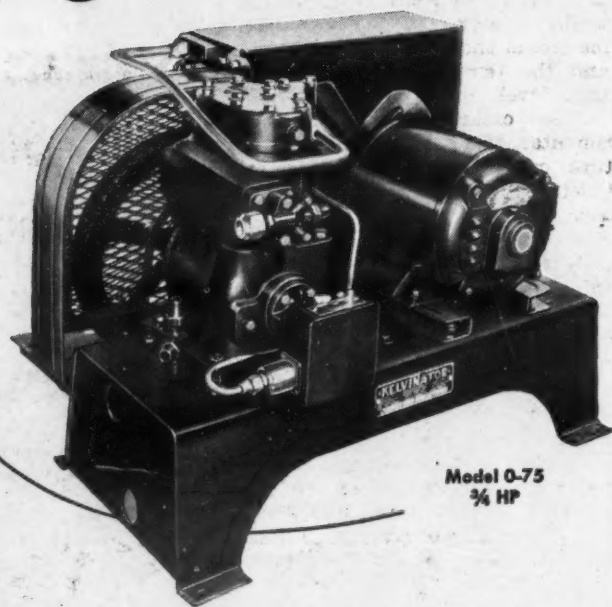
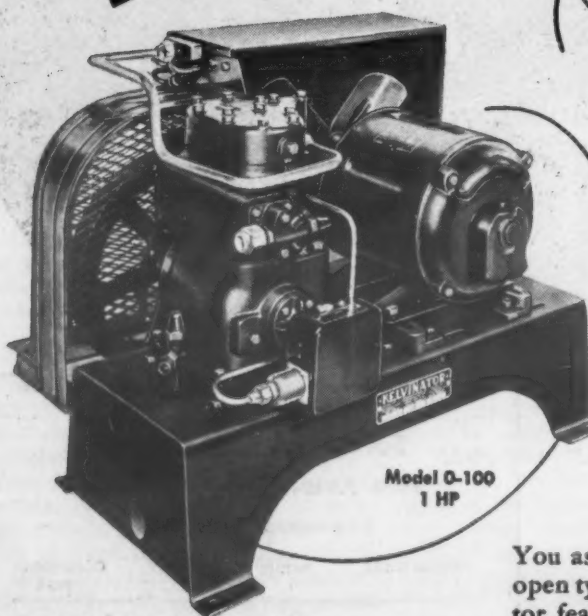
"All dairy products are extremely sensitive in absorbing odors from other foods in storage and should never be stored in the presence of fish, onion, garlic, or similar products.

"Frozen cream is stored in large quantities by the ice cream industry to supply a milk-fat shortage that usually exists during the winter months. If cream is processed correctly, it may be stored for several months. Since cream is a high fat

(Concluded on next page)

They're here—They're Kelvinator! 2 New Condensing Unit Models

3/4 HORSEPOWER
A NEW HIGH CAPACITY UNIT



1 HORSEPOWER
A NEW
HEAVY DUTY UNIT

You asked for them and here they are. Two big, new, open type condensing units with all the famous Kelvinator features which assure superior performance and low cost operation.

With these two new units, you can now choose from a range of five Kelvinator open type models . . . from 1/4 to 1 horsepower.

For your next new or replacement installation, choose Kelvinator—and you can be sure you've selected the right condensing unit for the job. All models are available for immediate shipment. Just call your nearest Kelvinator Distributor or Zone Office. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit, Mich.

FOR
TROUBLE-FREE
PERFORMANCE,
USER ACCEPTANCE
AND
COMPETITIVE PRICE
GET

Kelvinator—of Course!

DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS

**THE NEW STANDARD
OF THE INDUSTRY**

**METREX
MODULATING
WATER
REGULATORS**

- Approved and used by leading manufacturers
- Positive Shut-off
- Packless Construction
- Stainless Steel Seats
- All Bronze Body
- No Chatter or Hammer
- No Pistons or Rubber Sleeves
- Sealed Lubrication for Life
- Universal Mounting Yoke
- Safety Stem Seal
- All Quality Construction
- Low Cost—Long Life
- For use with Freon 12, Freon 22, Methyl, Sulphur and Ammonia

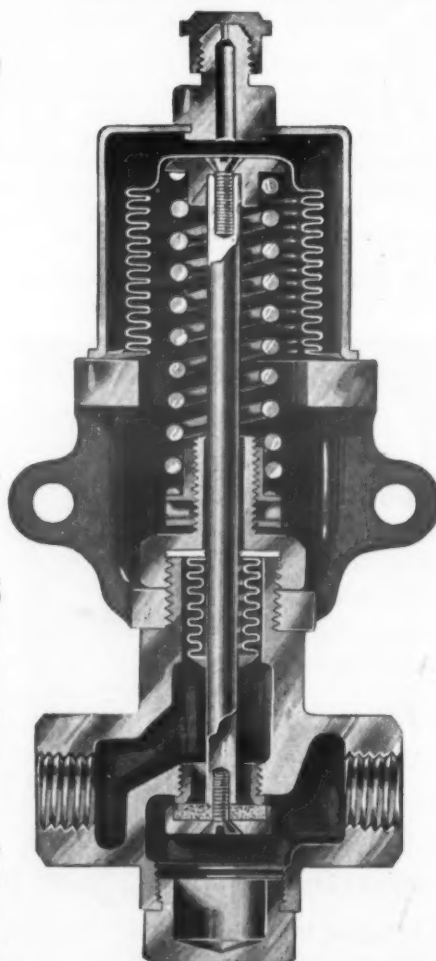
NOTE THESE EXCLUSIVE FEATURES

95% of Valve Capacity on a 15 Pound Increase in Head Pressure.

Valve is Tightly Closed on 5 Pound Decrease in Head Pressure Under Opening Point.

Stocked by Leading Jobbers Only

Write for details on your letterhead—
Metrex Valve Co., 9904 Franklin
Avenue, Franklin Park, Ill.



Model W
Series 2000

METREX VALVES

WATER REGULATORS • COMPRESSOR SERVICE VALVES • EXPANSION VALVES
WATER COOLED CONDENSERS AND BOOSTERS • ACCUMULATORS
DEHYDRATORS • MULTI-STRAINERS • LINE VALVES • ACCESSORIES
SPECIAL DESIGN PRODUCTS FOR THE REFRIGERATION INDUSTRY

Ice Cream Requires Careful Storage To Avoid Tendency To Pick Up Odors

(Concluded from preceding page)

substance it is extremely subject to lipolysis and development of rancid flavor. Sweet cream is, also, subject to oxidized flavor development.

"If sweet cream of low acidity is mixed with sugar to a percentage of 42% and heated to 180° F. for 20 minutes in stainless steel equipment, cooled and stored at -15° F. in well-tinned cans, the cream should keep for several months.

"Oxidized flavor in frozen cream may be minimized by adding any of several tested antioxidants to the cream before pasteurizing.

"Rusty cans for cream makes iron available for oxidation," he also pointed out.

"Warehousemen therefore shouldn't accept rusty cream cans.

"The storage of butter is of special importance in the southern area because of the large amounts used in ice cream mixes. In general, the same precautions can be used for butter as for sweet cream except no sugar is added.

"In the southern states, practically all storage butter is used for ice cream, and, therefore, should be at least 92 score, meaning that it is made from fresh, sweet cream con-

taining no objectionable flavors.

"Cream that is churned into butter for storage should not be neutralized, should be pasteurized at 180° F. for at least 20 minutes, and churned in clean churns. All parchment should be soaked in brine or a chlorine solution of sufficient strength to destroy most microorganisms.

"Sweet cream butter is extremely subject to oxidized flavor development and a recommended antioxidant should be used. Sweet butter should be stored at approximately -10° F.

"In the group of milks labelled as 'concentrated milks' are included concentrated skim milk and whole milk, sweetened concentrated skim milk and sweetened condensed whole milk.

"Concentrated skim milk usually contains about 30 to 26% milk solids not fat. Some tests have been run on the storage of concentrated skim milk at temperatures of -15° F., but although it may be kept a short period of time, it is subject to protein destabilization and curdling when thawed unless extreme precautions are observed.

"Sweetened condensed milk usually contains about 40-42% sugar, pre-

ferably sucrose, and may be stored to a better advantage than the unsweetened product.

"Sweetened condensed whole milk usually contains about 8.5% milk fat, 20% milk solids not fat and 42% sugar. The sugar used should either be all sucrose or approximately 50% sucrose and 50% of an enzyme converted corn sirup. Although sweetened condensed whole milk is frequently stored without refrigeration, it is subject to discoloring and development of off flavors.

"Theoretically this type of milk should keep successfully a long time in barrels at room temperature, but it won't.

"The following procedure for preparing sweetened condensed whole milk has been found to produce an excellent product. Sweet, fresh whole milk is standardized to the correct fat, milk solids not fat, and sugar ratio. The mixture is heated to 200° F. for 5 minutes, cooled to 150° F. and condensed in a stainless steel vacuum pan.

"When the correct concentration is obtained, the milk is cooled with vigorous agitation to 86° F. and seeded with lactose crystals at the rate of 1 oz. per 100 pounds of milk. The agitation is continued for one hour and then the milk is rapidly cooled to 50° F., and stored in well tinned cans at 35° F.

STORAGE OF WHOLE MILK

"This product may be held in storage for several months and will maintain excellent flavor and body characteristics. I think it pays to spend the money for refrigeration to store this milk for any length of time.

"Dried skim milk powder and dried whole milk powder are used extensively in the southern area for making ice cream mixes. Usually they are stored at room temperature although repeated tests have shown that storage at 40° F. is preferable as far as keeping the powder from discoloring and developing off flavors.

"The manufacture and storage of ice cream requires a large amount of refrigeration. Ice cream is subject to the same flavor developments as other dairy products but to a greater extent in some fruit flavors especially strawberry.

"Ice cream should be stored at -15° F. and the temperature maintained at that level. Repeated heat-shocking of ice cream will have a very detrimental effect on the body and texture causing iciness to develop, and settling of flavors in some instances.

"Fruit flavored ice creams are especially sensitive to slight ammonia leaks in the hardening room which will cause considerable discolorization. Ice cream is quite subject to picking up of storage odors.

CAUSE OF SHRINKAGE

"Shrinkage is also a very important problem with ice cream, shrinkage sometimes running from 10% to 50%. This is mainly a problem, I think, of temperature variations. Ice cream may be kept at -15° in the holding room, at 20° in the truck, and at 0° in the store cabinet.

"Our tests have showed the 40% to 60% overrun ice cream doesn't shrink while 80% to 100% overrun ice cream does. However, 120% overrun ice cream didn't shrink either. Generally, I wouldn't recommend holding ice cream in storage more than a month.

"Cheese and cheese foods are subject to many flavor developments due to enzymatic and bacterial action. Generally speaking, these products should be stored at 35° F.

5th Wiring Conference Set for February 24-25

CHICAGO—The fifth annual adequate wiring conference for electrical industry representatives will be held in the Stevens hotel here on Feb. 24 and 25, the National Adequate Wiring Bureau, sponsors of the discussion-conference, announced recently.

The conference will immediately follow the National Association of Home Builders' convention and exposition to be staged in the Stevens from Feb. 20 to 24. The bureau plans to have an exhibit at the builders' exposition.

"Kitchenizing—Planned Lighting—Adequate Wiring—The Harmony Trio" is one of the suggested feature presentations of the conference, according to the bureau.

BTC Frozen Food Display Cabinet



... the Grocers' Sign for Sales



Model DC-12-2
Capacity 12 cu. ft.
Floor space 28" x 76"
Over-all height 66"
Motor, 110-120V.
Compressor, 1/3 hp.

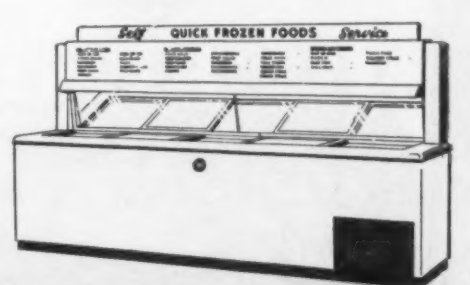
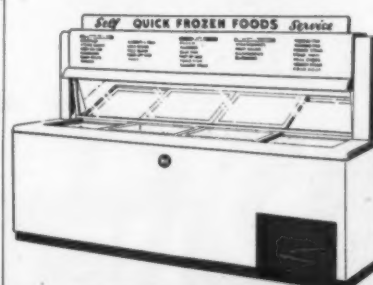
Stainless Steel Top
Vapor-Sealed Insulation
Clear-View Superstructure
Full Length Display Mirror
Removable Thermopane Lids
Bonderized Steel Construction

Retail sales of frozen foods can be increased by at least 50% with the right equipment. Actual store tests have demonstrated this fact. BTC Display Cabinets help sell more frozen foods by the proven methods of open, easy-access display and constant temperature for uniform quality.

Arrange for the BTC franchise in your area and you will be certain you represent display cabinets that are sales-tested and performance-guaranteed. Write for full information and illustrated catalog on the complete BTC line.

Model DC-18-2
Capacity 18 cu. ft.
Floor space 28" x 98 1/2"
Over-all height 66"
Motor, 110-120 V.
Compressor, 1/3 hp.

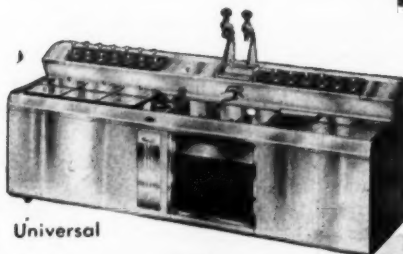
Model DC-23-2
Capacity 23 cu. ft.
Floor space 28" x 121"
Over-all Height 66"
Motor, 110-220 V.
Compressor, 1/2 hp.



THE BREWER-TITCHENER CORPORATION
BINGHAMTON, N. Y.

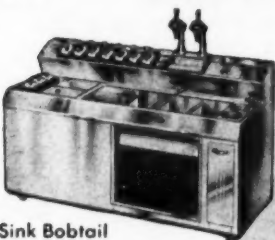
Everfrost THE Modern LINE OF

SODA FOUNTAIN EQUIPMENT



Universal

- Self-contained carbonator
- No Messy water bath
- Low operating cost
- Easy to install
- Minimum upkeep



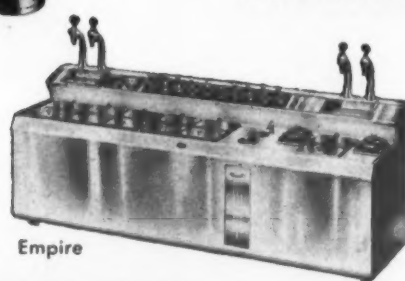
3 Sink Bobtail



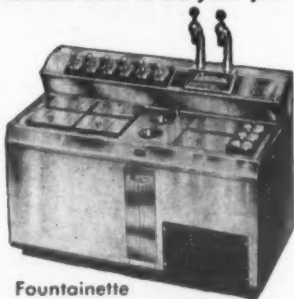
Carbonator

Engineered and built by fountain specialists, the EVERFROST "balanced line" of fountain equipment is designed to offer a completely MODERN fountain that fits the exact requirements of your installation. Every fountain is available as a completely self-contained unit with the new Everfrost Refrigerated Carbonator and Water Cooler, or may be hooked up for remote installation. EVERFROST fountains completely eliminate the messy, hard to clean water bath, reduce installation costs, and give you large volume fountain service in a minimum space.

There's an EVERFROST Fountain built to do your job.



Empire



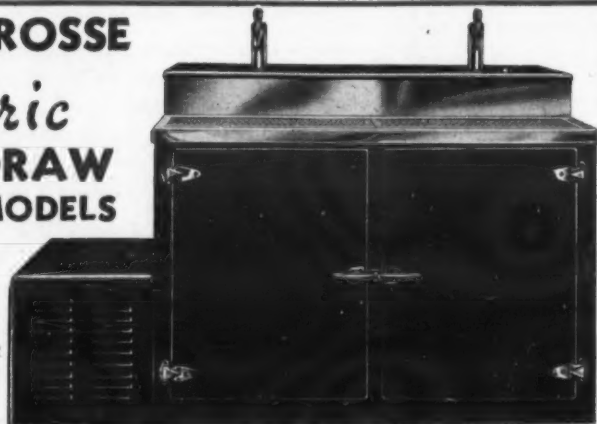
Fountainette

WRITE OR WIRE TODAY FOR DETAILS ON THE FULL LINE OF EVERFROST EQUIPMENT

ANDERSON & WAGNER INC.
8701 South Mettler Street • Los Angeles 3, Calif.

THE LA CROSSE Electric DIRECT DRAW 2 & 3 KEG MODELS

Regarded as the Standard of Comparison for Design, Construction & Performance.



LA CROSSE COOLER CO.
2809 Losey Blvd. So., La Crosse, Wisconsin

Export Representatives: Melvin Pine & Co.
Cable address: Eximport 80 Broad St., New York 4, New York



RECO

Sectional FREEZE COOLERS and HARDENING ROOMS
Simple to Erect, Move or Enlarge.

SIZES FOR Every NEED

FROM — 192 to 5000 Cu. Ft. Cap.

(REFRIGERATION ENGINEERING CORPORATION)
RECO PRODUCTS DIVISION
2020 Naudain Street, Phila. 46, Pa.

Raybestos-Manhattan Opens Warehouse for Northwest Area

PASSAIC, N. J.—Raybestos-Manhattan, Inc. recently announced the opening of its new Seattle warehouse and office at 314 Occidental Ave. where a complete stock of industrial rubber products for industrial requirements of the Pacific Northwest area will be carried.

Russell G. Heuman will have charge of the new warehouse and office.

Carrier Pays 25-Cent Dividend

SYRACUSE, N. Y.—A stock dividend of 25 cents on the common, payable March 1, to stock of record Feb. 11, has been ordered by Carrier Corp.

QUIZ-BY-MAIL

Interest In Cooling Towers Stirred by Q & A System

KANSAS CITY, Kan.—A series of question-and-answer type monthly mailing pieces entitled "What's Your Cooling Tower I. Q.?" has been prepared by the Marley Co., Inc., manufacturer of cooling towers.

First of the series, which was distributed recently, contains 10 questions and answers on water distribution. A scoring chart enables the reader to grade himself. The second quiz will deal with air movement.

"Although the subject is technical, presentation is informal," Marley pointed out. "At the same time, the pieces are informative enough to merit serious study and a place in the permanent files of most engineers."

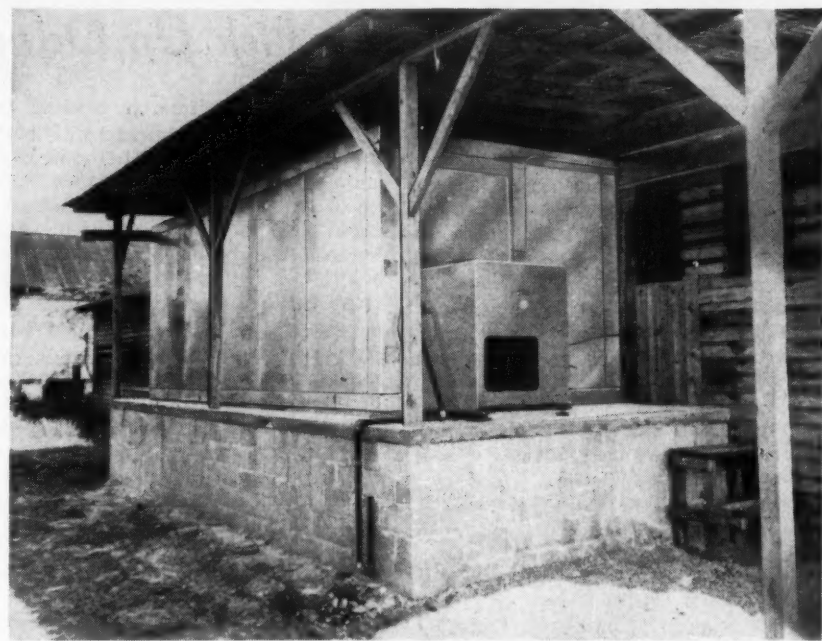
Penn Electric Names Ford Los Angeles District Mgr.

GOSHEN, Ind.—E. M. Ford has been named district manager of the Los Angeles territory for Penn Electric Switch Co. according to R. H. Luscombe, general sales manager. He replaces W. H. Krack.

Ford, formerly assistant advertising manager of the company, has been with the Penn Electric Switch Co. for 18 years and is well versed in Penn automatic controls and their application to heating, refrigeration, air conditioning, engines, pumps, and air compressors.

The company's Los Angeles office will continue to be located at 736 E. Washington Blvd.

Seafood Firm Meets Sales Need



Cooler enables Fulton Co. to have added stocks of fish on hand for holiday, weekend, and night selling.

Prefabricated Cooler Provides Flexibility For Fulton Fish Co.

JACKSONVILLE, Fla.—Use of a prefabricated, sectional freeze cooler has reportedly resulted in much flexibility in the operations of Fulton Fish Co. here, one of the South's leading wholesalers of seafood.

The portable, expandable cooler, manufactured by Reco Products Division of Refrigeration Engineering Corp., Philadelphia, is designed to maintain zero storage conditions for frozen scallops, crayfish, shellfish, oysters, filet, and shrimp sold by Fulton to institutions, restaurants, retail stores, and hotels.

Dimensions of the cooler are 8 ft. 6 in. by 19 ft. 3 in. by 7 ft. 6 in. (high). Refrigerated by a 3-hp. air-cooled "Freon" Reco-Pak packaged refrigeration system, the cooler has capacity for storing between 15,000 and 18,000 pounds of previously frozen foodstuffs which have been packed in cartons.

Primarily, Fulton is dependent on commercial facilities for the freezing and storage of its large stocks. However, the firm has long felt the need

for "on hand" storage facilities for limited quantities of seafood to supply customers at night or on Sundays or holidays, or for emergency requirements and off-platform deliveries.

Formerly, this business was handled at considerable inconvenience and expense or not at all when the commercial storage plant was closed. Further, use of the freezer has enabled Fulton to bring over small residual lots of fish and shellfish from the commercial plant to the sales location where, by vigorous promotion methods they can be rapidly moved.

Monthly power costs for operation of the cooler were estimated by Fulton to range somewhere between \$20 and \$25.

Admiral Corp. Net Income Hits \$2,791,664 for 10-Month Period

CHICAGO—A net income after taxes and charges of \$2,791,664, equal to \$3.10 a share on 900,000 shares of capital stock, has been reported by Admiral Corp. and its subsidiaries for the 10 months ended Oct. 31, 1948. Net sales totaled \$50,899,834. No comparisons were given.

REFRIGERATION AND AIR CONDITIONING UNITS • PARTS • TOOLS • SUPPLIES

NEW Latest Prices Wanted Lines

Write Today for Your Copy

Why spend valuable business hours and car expense on trips to buy parts? Get fast low-cost delivery from our large, complete stocks. Airo serves buyers in 48 States and overseas.

Wholesale Only
Please Write on Your Letterhead

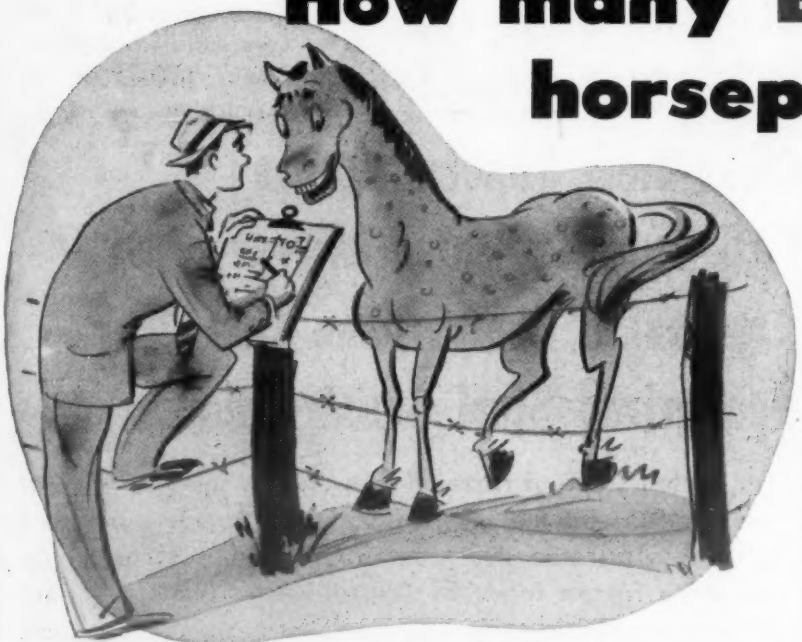


AIRO SUPPLY CO.
2732 N. ASHLAND AVENUE • CHICAGO 14, ILL.

BRUNNER
SINCE 1906

REFRIGERATION helps you serve better

How many BTU's per horsepower hour?

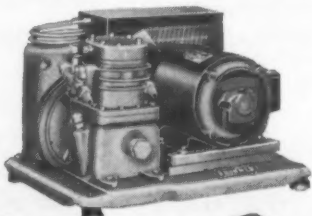
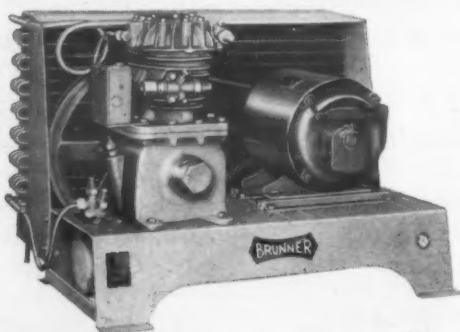


Refrigerating equipment installation engineers know that the refrigerating capacity of a condensing unit is measured in terms of BTU's produced per hour per horsepower. How many BTU's in a horsepower hour depends entirely upon compressor design and operating efficiency. Cost of BTU production is the whole cost of refrigeration.

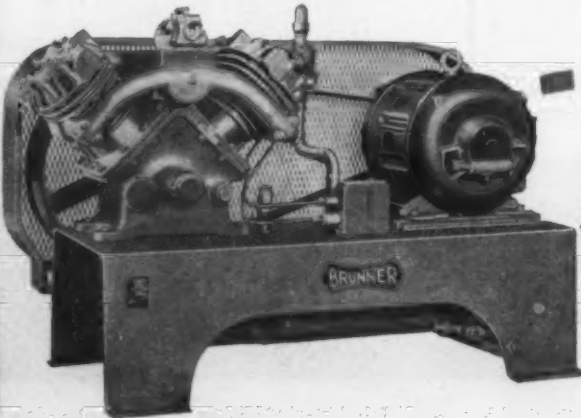
Obviously, if a required refrigeration capacity can be produced with less horsepower, less running time, less wear in the unit, you can see where worthwhile installation economies can be effected plus a greater customer satisfaction.

BRUNNER MANUFACTURING CO.
UTICA 1, NEW YORK, U.S.A.

IN YOUR BUSINESS it's well to know all the answers. It will be time well spent to let a Brunner factory representative show you the many reasons why Brunner compressors deliver such a high and dependable efficiency. Just send your name and address.



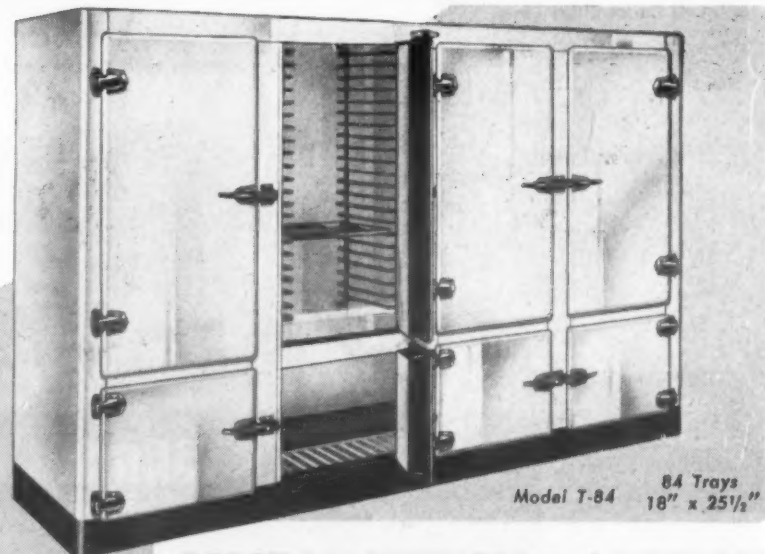
REFRIGERATION
CONDENSING UNITS
...a size and type
for every purpose



BRUNNER
SINCE 1906

AIR AND WATER COOLED MODELS
1/4 HP. TO 30 HP.

STEP UP PROFITS With "P-H" Slo-Dough Cabinets



Model T-84 84 Trays
18" x 25 1/2"

PORCELAIN EXTERIORS and INTERIORS STAINLESS EXTERIORS also Available

The new Puffer-Hubbard all-porcelain Slo-Dough Cabinets with patented Grad-U-Matic Air Conditioning for the correct control of both temperature and humidity provide the most efficient dough retarding for all baking purposes. They will quickly pay for themselves in savings in time and labor and enable you to step-up profits. Available in 3, 6 and 8 door models, they:

1. Greatly reduce left-over losses
2. Permit additional bakes at any time
3. Make rush orders easier to handle
4. Assure oven-fresh goods at all hours
5. Eliminate night work
6. Simplify production schedules
7. Relieve week-end rushes
8. Improve eating quality
9. Greatly increase sales.

Write for INFORMATION



PUFFER-HUBBARD
MANUFACTURING COMPANY
Grand Haven, Mich. Established 1898

MANUFACTURERS OF REACH-IN CABINETS, DAIRY-DELICATESSEN CASES, BEVERAGE COOLERS, DOUGH RETARDERS, FLORIST CABINETS AND WALK-IN COOLERS

The KEY to AIR CONDITIONING

One of a series from
by James J. LaSalvia

Readers who have any questions regarding the application of air conditioning are invited to write to Mr. LaSalvia, the author of this series, who will be pleased to furnish a complete and detailed answer free of charge. This is another of the services provided by the NEWS.

Automatic Controls (Cont.)

TEMPERATURE TO BE CARRIED IN THE SPACE

The temperature to be carried in the space usually depends upon the outside conditions. The exact temperature to be carried in the space will always be controversial among air conditioning engineers.

Assuming a system designed to carry 80° F. d.b. temperature inside the space when the outside is 95° F. d.b. temperature, it is understood that this is at the high peak of outside temperature, and it is obvious that a 15° F. differential between inside and outside is to be carried.

As the outside temperature lowers, the inside temperature should also lower correspondingly, so that when the outside temperature is 80° F. d.b. that the inside temperature should be 74° F. d.b. This becomes a 6° F. differential at the minimum outside temperature.

The inside temperature should not go lower than 74° F. If the outside goes lower than 80° F., the room thermostat should not be set lower than 74° F.

It has been found in practice that the following inside temperatures should be carried for corresponding outside temperatures:

D.B. Temperatures Inside of Space	Outside D.B. Temperatures
80° F.	95.0° F.
79° F.	92.5° F.
78° F.	90.0° F.
77° F.	87.5° F.
76° F.	85.0° F.
75° F.	82.5° F.
74° F.	80.0° F.

For the above settings the normal air conditioning system will not require re-heat. But if lower than 74° F. inside settings are used, re-heat must be applied.

On most air conditioning systems, this setting of the room thermostat can be accomplished manually. But for a system to operate efficiently at all times and to meet the unexpected lowering and rising of the outside temperatures and also changes in the inside load, it is recommended that the setting of the room thermostat be accomplished automatically.

Automatic setting of the room thermostat is known as "compensated dry-bulb temperature control."

The relative humidity is not controlled. It is assumed that the cooling coils and compressor have been selected properly in size to meet the sensible and latent heat load at the peak outside condition. If this is done, the relative humidity will be proper at the lower d.b. temperature settings.

DETERMINING KIND OF CONTROL TO BE USED

When designing an air conditioning system, one should at the start have a definite idea as to what kind of control system is to be applied, because each system is different in some respect. The kind of control selected will determine the selection of compressor, cooling and heating coils, and duct system to be used.

In order to make such a decision on the type of controls to be used, it becomes necessary to know certain basic characteristics of the other equipment in the system. They are as follows:

1. The refrigerant output of a compressor is in a direct relation to the suction pressure. When suction pressure lowers, the output is lessened, and when suction pressure rises, the output is increased.
2. The refrigeration coil temperature is also in a direct relation to the suction pressure.
3. When the airflow through the coils is reduced, the load on the coil is reduced and the suction pressure is reduced, and conversely when the airflow is increased, the load on the coil is increased and the suction pressure is increased.
4. A decrease in the amount of coil area will lower the suction pressure, thereby lowering the output of the compressor. Conversely, increasing the amount of coil area will increase the suction pressure, thereby raising the output of the compressor.
5. A decrease in capacity of compressor will result in a higher coil temperature and a higher suction temperature. Conversely an increase in capacity of compressor will result in a lower coil temperature and a lower suction temperature.

The above characteristics can be affected by various methods as given below:

- a. By using compressor by-pass valve.
- b. By using two-speed compressors.
- c. By using variable-speed compressors.
- d. By using multiple compressors.
- e. By varying the air volume.
- f. By varying the coil area.
- g. By using multiple coils.

COMPRESSOR BY-PASS VALVE

When using compressor of more than one cylinder, each cylinder or multiple cylinders can be cut out and cut in by automatic control, by means of a by-pass valve to reduce or increase capacity of compressor.

TWO-SPEED COMPRESSOR

Automatic control can be used to change suction pressure or vary output of compressor by switching from one speed to another. This also varies capacity of compressor.

VARIABLE-SPEED COMPRESSOR

Automatic control can be used to change suction pressure or output of compressor by changing the speed of compressor in a modulating action.

MULTIPLE COMPRESSORS

Where more than one compressor is used, automatic control can be used to change suction pressure or capacity of refrigeration by cutting in and out of individual compressor.

VARYING THE AIR VOLUME OVER COIL

Automatic control can be used to vary the amount of air passing through the coil by using face and by-pass dampers in a modulating action to maintain room temperature.

VARYING COIL AREA

Automatic control can be used to vary the coil area, to increase or decrease the capacity of refrigeration by modulating the amount of refrigerant liquid to the coil. As the amount of refrigerant is decreased, the effective area of the coil is

lessened; and if amount of refrigerant is increased, the effective area of the coil is increased.

Also when the refrigerant is decreased, the capacity of compressor is decreased; and when refrigerant is increased, the capacity of the compressor is increased.

MULTIPLE COILS

When using more than one coil, automatic control can be used to cut out and cut in each individual coil. When a coil is cut out, capacity of compressor is decreased, suction pressure is lowered, and the coil temperature of the remaining coils which are operating is lowered. Conversely, when a coil is cut in, the capacity of compressor is increased, suction pressure is increased, and the coil temperature of the coils which are operating is also increased.

COMPRESSOR CONTROLS

All refrigerant compressors are generally equipped with the following safety controls:

1. High-pressure cut-out.
2. Low-pressure cut-out.

The above are entirely safety pressure controls and are combined into one mechanism.

The high-pressure cut-out is to prevent the head pressure of the compressor in building up to an excessive point from the result of many causes. It is usually set between 175 and 200 p.s.i. When the head pressure reaches this point, the compressor will stop automatically.

The low-pressure cut-out is to prevent the compressor from operating at too low a pressure, which would ice the coils. If coil is selected to

operate at 40 p.s.i. pressure, the low-pressure cut-out is usually placed at 15 to 20-p.s.i. pressure. The reason for placing at this point is to prevent short cycling.

SUCTION PRESSURE CONTROL

On the majority of systems the suction pressure is not controlled. The suction pressure is allowed to go up and down according to the load on the system. The coil temperature will vary in the same relation as the suction pressure.

On certain systems where it is required to hold the coil temperature constant, or not to drop below a predetermined temperature, a self-contained suction pressure control valve should be used and installed on the suction line.

(To Be Continued)

Lane-Bryant's To Be Air Cooled

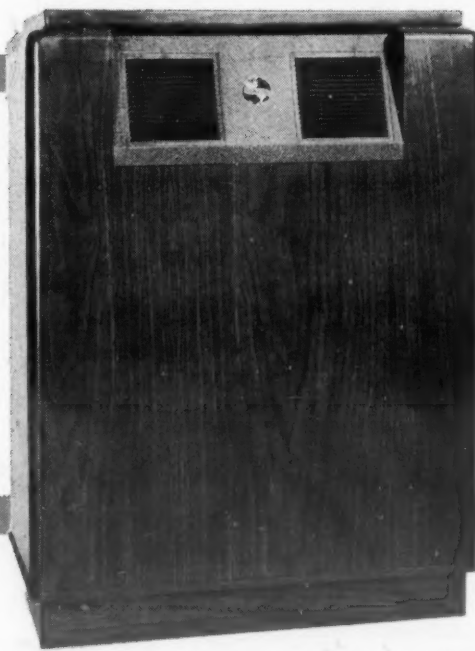
PITTSBURGH—The Lane-Bryant Store at 33 Fifth Ave. will be completely air conditioned.

Electrimatic
Valves, Driers, Strainers,
Charging Lines, Quick Couplers,
Forged Flare Nuts and Fittings
Ask Your Wholesaler
Electrimatic
2100 Indiana Ave. • Chicago 16, Illinois
Canada—2025 Addington Ave., Montreal

You'll Save! Customers Will Rave!! Refrigerated AIR CONDITIONING Installed WITHOUT "Wrecking the Place"

F. H. A. APPROVED!

YOUR
Territory
May Still
Be Open!
Write
Now!



Special PRICES

Distributor franchise available upon signed contract of 25 units or more
Distributor price—one to nine units\$181.72
Ten to twenty-four 172.53
Twenty-five up 168.03
Dealer prices—One to four 227.15
Five to nine 215.78
Ten to fifteen 210.11
Sixteen and up 204.49
All prices F.O.B. Oklahoma City
Condensing Units extra

SPECIFICATIONS Spelling S-A-L-E-S!

★ COMPACT, 27" High, 22" wide, 10" deep
★ CAPACITY, 2 rotary blowers, 12,000 BTU per Hour ★ REFRIGERATED with Freon ★ FILTERS and Dehumidifies
★ ENGINEERED to "Nth" degree, all Aluminum Case and all Copper Coils. ★ SMART Walnut or Blond Mahogany finish.
★ MODERN CONTROLS Expansion Valve, Solenoid and Thermostat for TRI-
PLE Control ★ ADAPTABILITY, Compressor to Unit copper tubing is easy to install, easy to move. Apt's. or Hotels can offer CHOICE of Air-conditioning, Lessees can install and move units without losing equity.

WRITE TODAY for
Full Information
Cable Address—
"INTIME"

Manufacturers of All Copper Refrigerant Coils from 1 to 20 tons which, when installed in existing ductwork of any central heating system, will provide refrigerated air conditioning.

INTERNATIONAL—Has a lower initial cost and installs for 25% to 40% less. No expensive alterations of walls or masonry, operates anywhere in the room. INTERNATIONAL Cools and dehumidifies from any location in a home, tourist court, office, hospital, hotel. The compressor, (extra) can be placed in basement, attic or closet, connect with flexible, inexpensive copper tubing. Increasing Compressor capacity makes large commercial sales easy! ALL the advantages of a single unit system without blocking windows, winter removal or compressor noise and heat. Fully Automatic, triple thermostatic control, INTERNATIONAL is THE Profit line for '49—No "wrecking" installations, inexpensive, effective, flexible, modern, smart! This same system, using chilled and hot water instead of Freon, will provide year round temperature control. Order now—WRITE...

INTERNATIONAL
CONDITIONING
Mfrs: International Manufacturing Co.
515 W. Main St. Oklahoma City 1, Okla.
Plant: 4028 N. Barnes

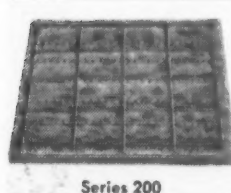
Take the Air Cleaning "Gamble" Out of Your Installations with R-P AIR FILTERS

By RESEARCH

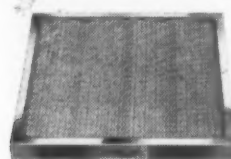
They're the result of exhaustive research and experiment in materials and filter media, developed solely for improving air cleaning efficiency. Because R-P Air Filters are planned and designed from "drawing board up," they offer you higher dust-holding capacity, lower air resistance, and scientific air flow.

Remember, your reputation rides on air borne particles of dust. Protect it, guarantee it with R-P Air Filters, "performance-proved" on leading equipment.

Use ALL These R-P Products —to your benefit...



RP FIBER SELF-SEAL FILTERS
Made of special adhesive-treated expanded fiber with "self-sealing" edge that prevents air by-pass.



RP ALUMALOY 22 Klean FILTERS
Lightweight, with expanded aluminum filter media for heating and air conditioning.



RP "SNAP-IN" GRIDS FOR LARGE CENTRAL SYSTEMS
Time-saving, labor-saving, simplify filter pad replacement.

Other R-P Air Cleaning Products:
R-P "Alumaloy" Washable Filters
R-P Cardboard Frame Replacement Filters
R-P "Alumaloy" Grease Filters
R-P "Filter Watchman"
R-P Roll Filter Media
R-P Filter Bank Frames
R-P Special Filter Coat

Get YOUR copy of R-P Techni-Data Booklet ... for information on air filtration.

RESEARCH PRODUCTS CORPORATION
DEPT. AN • MADISON 10, WISCONSIN

RP FILTERS ... for FINER LIVING

insist on genuine
Marlo
products
MARLO-HEAT TRANSFER
Since 1925

At the A. S. H. & V. E. Show in
Chicago January 24-28

SEE THE MOST COMPLETE LINE OF ROOM AIR- CONDITIONERS

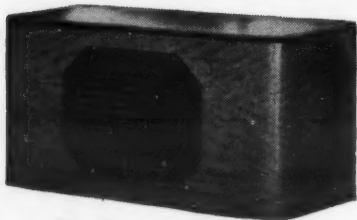
Remington
AIR CONDITIONING

For '49 Remington has everything you need for bigger gross sales and bigger net profits. The Remington line includes:

CONSOLES • WINDOW UNITS
AIR COOLED • WATER COOLED
AC OR DC • REMOTE INSTALLATION UNITS

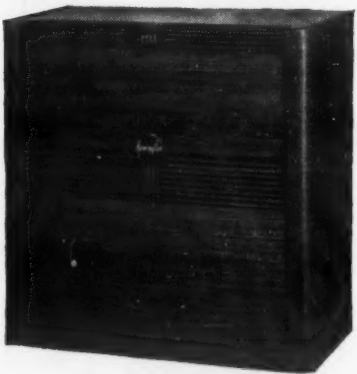
The BEDFELLOW (Model 6)

A 1/2 hp window unit—hermetic—with maximum cooling power of any 1/2 hp model. Featured for bedroom cooling, for which it is ideal. Up to 6000 btu/hr. 115-60-1.



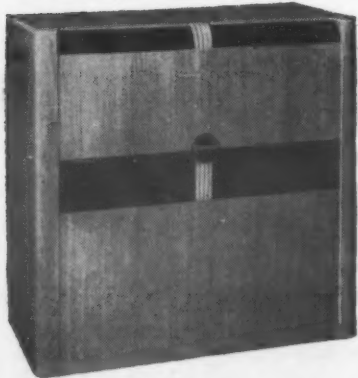
The PROFESSIONAL (Model 8)

3/4 hp window unit—hermetic—with maximum cooling power of any 3/4 hp model. Featured for use in business and professional offices, as well as homes. Up to 8800 btu/hr. 115/230 volts; 50/60 cycles.



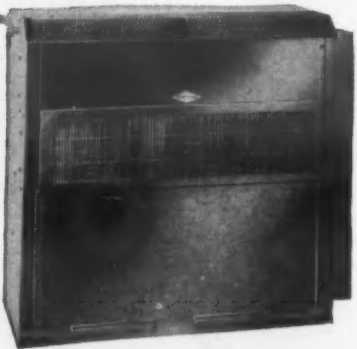
The DIRECTOR (Model 10)

1 1/4 hp console unit, air cooled, exceptional cooling power, hand rubbed wood cabinet. Featured for living rooms, substantial offices, and directors' rooms. Offered with heating and cooling. Up to 11,000 btu/hr. cooling. For AC or DC. (Also in water-cooled, model 10W.)



The OVERTON (Model 12)

1 3/4 hp console unit, air cooled, choice of genuine mahogany or blond avodiré wood cabinets. For large offices and living rooms, or especially severe conditions. Offered with heating and cooling. Up to 13,500 btu/hr. cooling. AC or DC. (Also in water-cooled, model 12W.)



The CLIMATE CONTROLLER

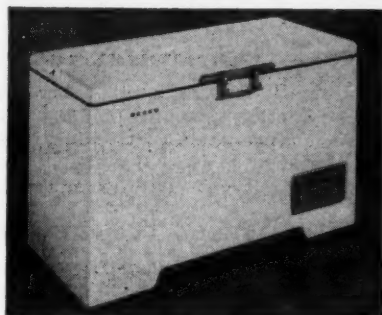
1 hp to 1 3/4 hp units, air or water-cooled, AC or DC, identical with models 10, 10W, 12 and 12W, except without decorative cabinets. For installation remote from conditioned space with duct connections, or where cabinet is unnecessary, as in laboratories, toolrooms, etc.

See this complete line at the A. S. H. & V. E. Show in Chicago from January 24 to January 28 (we'll be in Booths 927-929-931). If you can't come to Chicago, write us now for complete details.

REMINGTON AIR CONDITIONING

Division of Remington Corporation
Cortland, N. Y. Cables—Remingair

What's New



Chill Chest Model Offers 12.3-Cu. Ft. Capacity

DEERFIELD, Mich.—A new 12.3-cu. ft. heavy duty freezer which embodies substantially the same design and construction as Revco's 6.2-cu. ft. Chill Chest, has been introduced by Revco, Inc. here.

The new unit has a 9.5-cu. ft. storage compartment and a 2.8-cu. ft. fast freeze compartment. Storage space is divided into compartments, according to the manufacturer, with baskets available if desired.

Outside cabinet dimensions are 59 in. long, 36 1/2 in. high, and 27 in. wide. The storage compartment interior dimensions are 18 in. by 32 in. by 28 11/16 in. The freezer compartment interior dimensions are 18 in. by 18 in. by 14 11/16 in.

The liner of the cabinet and the tubing brazed to the liner are both made of aluminum. The cabinet itself is of welded steel construction with vapor sealed seams. It is insulated with 4 1/2 in. of Fiberglas throughout.

The refrigerating unit is a Tecumseh 1/4-hp. fan cooled, internally mounted hermetic using "Freon-22" refrigerant.

A red flashing signal safety light to warn against rising temperatures is provided.

Harley Cube Maker Starts And Stops Automatically



COLUMBUS, Ohio—A new ice cube machine that will automatically start and stop the production of ice cubes as the need is indicated has been introduced by the Harley Corp. here.

Made in two models, the units are completely self-contained and are made of stainless steel with aluminum sides and back.

One model—No. 75—discharges 75 cubes every 20 minutes into the insulated stainless steel storage bin. The other—No. 120—will produce 120 cubes in the same length of time.

The smaller model will make over 5,000 cubes, or 300 lbs. of ice, in one day. The larger will make over 8,000 cubes, or 450 lbs. of ice, per day.



FORD

ASPHALT MASTIC BOARD

The ideal vapor barrier. Keeps insulation dry. A money saving waterproof replacement for treated woods and plastics. FABRICATED to Any Shape and Size. For Breaker Strips—Cold Air Ducts

Ford Distributing Co.

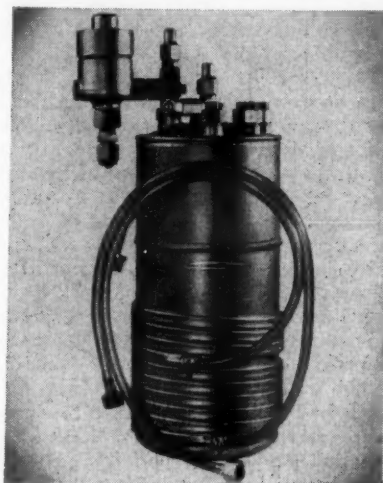
1129 E. 45th St., Chicago 15, Illinois

Temprite Cooler Handles 48 Gals. of Beer per Hr.

DETROIT—Latest addition to a line of draught beer coolers manufactured by Temprite Products Corp. here is a heavy duty model designed to cool three brands of draught beer, plus one plain water and one soda water.

The unit is intended for applications where beer kegs are located in warm rooms or basements and where no pre-cooler is provided.

Beer cooling capacity is measured, conservatively, at 48 gallons



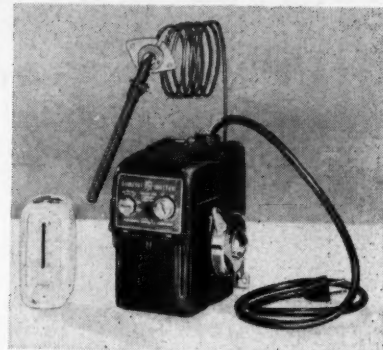
of 40° beer per hour from a 70° inlet temperature. On the same basis, this cooler can reportedly dispense up to 765 8-oz. glasses hourly, which is in excess of 12 glasses of 40° beer per minute.

The new model carries a code number of 49S3W2, is 22 1/2 in. high over-all by 8 in. in diameter.

Addition of this unit rounds out the Temprite line of eight beer cooler models. All coolers feature oval-shaped stainless steel beer coils, the nature of which is said to make it unnecessary to wait for the customary "beer stone" to form on the coil interior.

Like its companion models, the new cooler operates the Temprite-patented instantaneous cooling principle, which means that the beer coils are submerged in the liquid refrigerant itself. The heat of the beer being cooled thus passes directly into the main body of the refrigerant.

New A-P 'Comfortmaster' Has Only 2 Major Parts



MILWAUKEE—For the first time in the history of solid fuel heating controls, all operating units have been incorporated into two major parts—a damper motor regulator and room thermostat, Automatic Products Co. asserted recently in announcing its new model 110 A Comfort Master heat regulating set.

The Comfort Master, the company said, is completely packaged and requires only two electrical connections—plug in the power unit and connect the thermostat and motor regulator.

Five new features are incorporated in the damper motor regulator. They include a self-coiling hydraulic action motor that is completely submerged in oil; a power failure feature that returns dampers to check position in case of power failure; a stoker switch that automatically opens drafts when firing to allow gases to burn off and automatically returns to thermostatic control after a five-minute interval; a built-in transformer; and a blower fan switch.

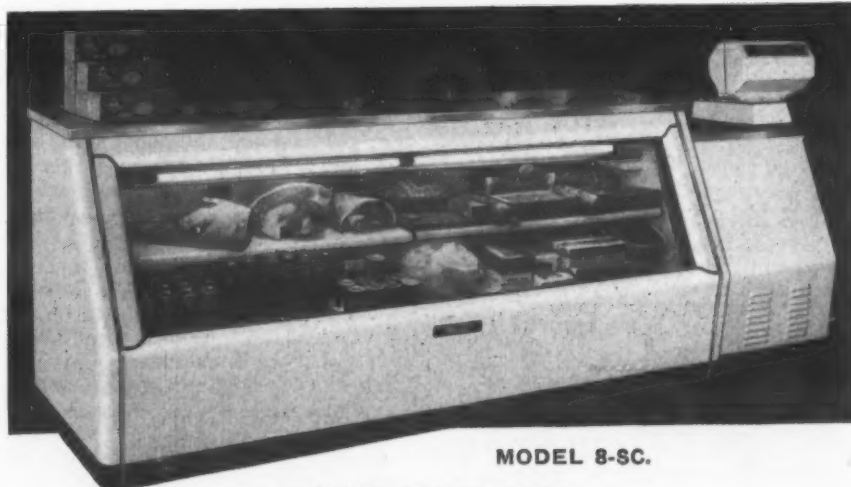
Prevore, Sr. Introduced



BROOKLYN—A new 14-in. deluxe table broiler has been introduced by the Prevore Electric Mfg. Corp. here. The unit, called the Prevore Senior Deluxe, is made of highly polished aluminum with bakelite trim. Suggested retail price is \$8.95.



THE NEWEST ADDITION TO THE COLDIN FAMILY



MODEL 8-SC.

"COLDIN JR." COUNTER TOP DISPLAY CASE

The ideal Cabinet for small Dairy Stores, Grocery Stores, Delicatessens, Restaurants and Bakeries.

- GLOSSY FORMICA COUNTER TOP AND SCALE STAND
- PORCELAIN EXTERIOR AND INTERIOR
- HARD RUBBER DOUBLE-GLAZED SLIDING DOORS



Write for Illustrated Literature and Specifications.

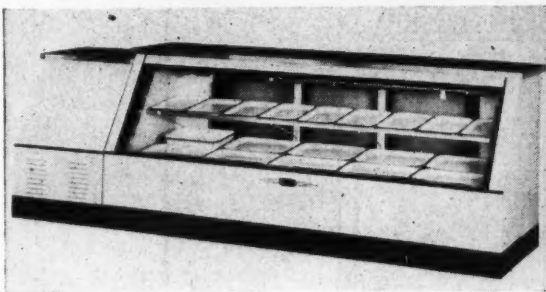
YOUR KEY TO BETTER REFRIGERATION

COLDIN CABINET CO., Inc.

2800 Webster Avenue, Bronx 58, N. Y. Tel. SEdgwick 3-5833

What's New (Cont.)

Sterling 'Triple-Duty' Case Has Sliding Doors



Sterling "triple-duty" display case with hard-rubber, triple-glazed sliding doors.

MINNEAPOLIS—Sliding doors are a feature of the 1949 Sterling "triple-duty" display cases, according to an announcement by Minneapolis Show Case & Fixture Co.

While swing door units will still be available, models with hard-rubber, triple-glazed slide doors will be favored in 1949 production schedules, the company said.

The new all-porcelain cases have a triple Thermopane front, fluorescent

lighting, and a "marproof" top with polished metal trim. They are being produced in 6 and 8-ft. sizes, remote or self-contained.

Display models are now in transit to dealers for January showing. Shipment of stock orders is made within one week after receipt of orders, the manufacturer stated.

The cases are intended to meet the needs of small stores, cramped for floor space.

'Liquid Stainless Steel' Applies Just Like Paint

COLLEGE POINT, N. Y.—A new "liquid stainless steel" that can be applied like paint has been introduced by the plastic division of the Lockrey Co. here.

The new product, according to the company, permits anyone to apply a coating of pure stainless steel to any surface by brushing or spraying.

A technical bulletin released by the company explained: "By a new process pure stainless steel is broken down into flakes so microscopically fine that it 'flows' almost like a liquid.

"This flake is incorporated in a mixture of vinyl copolymer resins with a volatile thinner to bring it to brushing consistency, and the resulting mixture can then be handled like any other coating material or paint to form a protective and decorative coating over any surface, having excellent adhesion to wood, metal, absorbent surfaces generally, and to practically any other coating material.

"It is supplied in brushing consistency, and may be thinned with acetone or other ketones, or lacquer-thinner mixture, to practically any degree, for spraying or other purposes.

"It dries at room temperatures anywhere from a few seconds to an hour depending on the conditions of application and thickness of coat. The steel does not harden or cake in the can, nor does the mixture age on storage."

None of the corrosion-and chemical-resistance of stainless steel is lost in this process, the bulletin continued. In addition, "because of the method of blending the steel with this particularly tough type of vinyl, abrasion-resistance is increased far beyond the normal range.

"The coating will stand intermittent exposure to temperature as high as 350° F., but higher temperatures or prolonged exposure may cause yellowing and final disintegration."

The bulletin said that the coating has a bluish gray color and the reflection is diffuse and at all angles.

This provides a sparkling or iridescent effect at times.

Though the liquid stainless steel is supplied only in the natural color, one ounce of "colors in solution ready to mix" will be supplied with each pint of the liquid.

Other characteristics claimed for the new coating are toughness, complete waterproofness, chemical-proofness, and non-inflammability.

The liquid stainless steel is packed in pints, quarts, gallon, and five gallon steel cans. These are priced at \$2.50, \$3.95, \$12, and \$48.

Frozen Food Jar's Safety Device Prevents Cracking

NEW YORK CITY—An all-purpose glass jar, in pint and quart sizes, for storing frozen foods in home freezers has been introduced by Vacu-Top Jars, Inc. here.



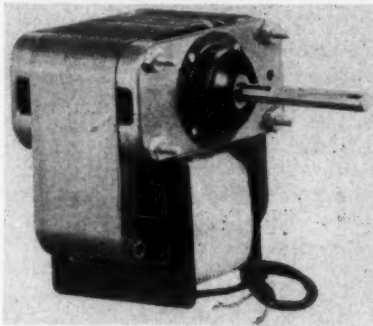
The Vacu-Top jar features a patented spring clip which acts as an automatic safety device. Should the jar be filled too full, the spring will pop up and the glass lid will rise as the level of the ice rises, the company explained. This, it added, means no broken containers, no spoiled food, and no shards of glass on the floor of the freezer.

Other features of the jar are a wide mouth for easy filling and straight sides for easy cleaning. The

flat lid permits piling one jar on top of another.

For removing frozen foods from the jar, the company recommends plunging the jar into cold water. This thaws the outer portion of the vegetable or fruit so it can be quickly slipped out of the jar. The still frozen food can then be cooked in boiling water.

Vacu-Top Jars, Inc. is located at 420 Lexington Ave., New York 13.



Skeleton Type 350 Motors Introduced by Russell

CHICAGO—Russell Electric Co., division of Raytheon Mfg. Co., has announced introduction of its Type "350" line of shaded pole skeleton motors based on a 3½-in. square frame lamination.

Efficiencies up to 35% and starting torques up to 60% are claimed for these two-pole motors, which are available in capacities from 1/25 to 1/10 horsepower, 3,000 r.p.m. The motors are also available with gear reducers.

Superior VALVES, FITTINGS and ACCESSORIES For All Refrigeration and Air Conditioning Systems

Superior Valve and Fittings Co. PITTSBURGH 20, PENNA.

MIDWEST DISTRICT SALES SUPERVISOR WANTED

Nationally known manufacturer of Commercial Refrigerators has unusually attractive proposition to offer for complete, aggressive representation in the prosperous Mid-west. Please furnish all details in first letter.

Address Box 3060, Air Conditioning & Refrigeration News

insist on genuine

Marlo

products

MARLO - HEAT TRANSFER Since 1925

HERE'S NEWS!

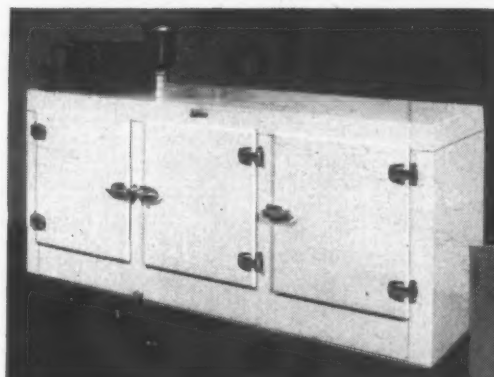
SUB-ZERO MILK COOLERS WITH THE REVOLUTIONARY *Cascading Water* PRINCIPLE



HERE'S THE PRINCIPLE . . .

The cooling principle behind Sub-Zero's newly designed milk coolers incorporates an efficient compressor and a dependable pump. Chilled water is cascaded from the supply tank over the tops of the milk cans, providing complete coverage of the cans for fast, easy cooling with a minimum of water used. The cans are left dry and clean after the cooling process. A time switch can be set for any desired period of pump operation. The water cooling tank also provides refrigeration for storage and cooling of cans.

HERE ARE THE COOLERS . . .

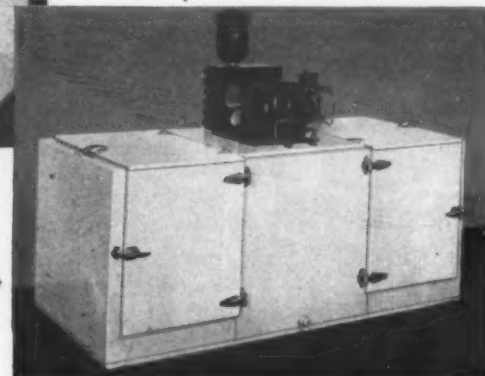


6 CAN IN-LINE COOLER

Has front-opening doors for easy storage and removal. Interior is heavy galvanized metal . . . the exterior is aluminum sheet with infra-red baked white enamel finish. Pump and compressor are removable for service. The ideal cooler for use where space is limited. Dimensions: Length, 94"; Width, 28"; Height, 40".

DE LUXE 8 CAN COOLER

Has both front and top-opening doors . . . eliminating lifting of heavy cans. Galvanized metal interior and infra-red baked white enamel exterior. Pump and cooling coils are a complete, removable unit. 30-gallon water supply tank is small enough to permit frequent water changes. A 12-can cooler in this model also available. Dimensions: Length, 76"; Width, 33½"; Height, 32".



* Visit our booth, K-17, at the Mid-Winter Furniture Show, Chicago

Write for Dealer Information

SUB-ZERO FREEZER CO., Inc.

MADISON, WISCONSIN

THE COMPLETE LINE OF FREEZERS

Marsh Redesigns Indoor, Outdoor Thermometer

SKOKIE, Ill.—Duo-Temp, claimed to be the only fully mechanical dial-type indoor-outdoor thermometer, has been completely redesigned and restyled by its manufacturer, Jas. P. Marsh Corp., Dept. D-1, here.

The new changes greatly enhance the appearance of the instrument and improve the visibility of temperature readings, according to the company.

A new case of smoothly contoured molded plastic is done in a neutral platinum-beige color. On the dial, gold characters stand out against a deep duobonnet background. The upper (outdoor) scale reads from -30° to 110° F., the lower (indoor) scale from 50° to 90° F.

Speedometer-type pointers indicate the temperature reading. Protection for the dial is furnished by a strong molded crystal that is curved to prevent reflection of light.

Behind the dial, Marsh has retained the same dependable bourdon tube movement that has proved itself so accurate in the many thousands of Duo-Temps now in use.

For installation, the sensitive metal bulb is fastened outside the building on the bracket provided with the instrument, and the armored capillary tubing passes between the sash and casing of a window.

Be Smart! Get the New No. 148 Fall and Winter **DEPENDABOOK**

HARRY ALTER'S REFRIGERATION PARTS CATALOG

WHOLESALE ONLY

A catalog issued to and for the trade only...Write—NOW—on your letterhead, for your copy of the most nearly complete refrigeration-parts-and-supplies catalog in the business—the new DEPENDABOOK!

1728 S. MICHIGAN AVE. CHICAGO 16, ILL.
134 LaFayette St., New York 13, N. Y.

Before Putting Into Operation

Four Methods of Dehydrating Assembled Systems In the Field Outlined by Carter

BOSTON—Methods of dehydrating a refrigeration system in the field were described at the Refrigeration and Air Conditioning Educational Conferences by Frank Y. Carter, chief sales engineer of the Detroit Lubricator Co.

Carter's discussion related more generally to the drying methods that are employed when assembling systems in the field, rather than to the use of cartridge-type dryers used either permanently or at intervals to keep the system free from moisture while it is operating.

The speaker emphasized that continuing experience in the refrigeration field shows that the moisture problem is adding weight to its designation as "enemy No. 1" of good operation of refrigeration systems.

Carter described how very small quantities of moisture can impair expansion valve operations. The orifice of an expansion valve, through which liquid refrigerant passes, is of necessity a very narrow opening in the shape of a doughnut, and the needle movement from full closed position to full open position is only a few thousandths of an inch. So small an opening is easily blocked and a droplet of water when frozen into ice can easily plug it completely.

The quantity of water commonly referred to as a "grain" is actually a sphere or ball of water, slightly over $\frac{3}{16}$ in. in diameter, and this much water frozen into ice can completely block the orifice of a large expansion valve, Carter explained.

Smaller amounts of water in the system can collect at the expansion valve orifice and partially obstruct the flow area. If this happens when the valve is throttling closely, a starved evaporator will result. If it occurs when the valve is nearly wide open, it can cause the needle to remain too far off the seat, resulting in a flood over.

A large amount of free water in the system can often pass entirely through the orifice of the expansion valve at above freezing evaporation temperatures and freeze the needle carrier in a fixed position when below freezing evaporation occurs. This usually results in the valve losing control.

Carter described the various meth-

ods of dehydrating systems in the field as follows:

1. Heat and vacuum method.

This method is more generally used in a shop, where the complete unit is placed in a heated oven and connected to an efficient vacuum pump. The heat vaporizes the moisture from the inner walls of tubing and other parts, and the vacuum pump draws this water vapor out of the system. Neither heat nor vacuum alone is sufficient.

However, this method can be applied in the field, at the point of installation. Equipment needed includes infra-red or heat lamps, and a portable vacuum pump capable of drawing a vacuum of 28 or 29 in. of mercury. The following procedure is recommended:

Connect the vacuum pump to the system and start it operating. Use the heat lamps to warm every part of the system simultaneously, including all the tubing, and keep them warm, with the pump operating continuously. The length of time needed for complete drying will depend upon the size of the system and the capacity of the vacuum pump.

When using this method with an existing system any tubing not accessible for heating with the lamps or a torch should be removed from the system and either replaced with new dry tubing or thoroughly dried out and put back. New tubing will be more satisfactory in most cases.

2. Drying with hot air.

Refrigeration coils and tubing may be dried by putting enough hot, dry air through them.

Hot air, or any other inert gas, such as nitrogen or carbon dioxide, has the capacity to hold water as a vapor, and this capacity increases with temperature increase. Air is said to be saturated when it cannot evaporate any more water. For example, air at -25°F . and at atmospheric pressure is saturated when it contains .0001968 pounds of water per pound of dry air. At 200°F . this pound of dry air will hold 2.261 pounds of water as vapor.

The hot air can either be "pulled through" or forced through under pressure. The "pull through" method is a variation of the vacuum drying

method, except that the heat comes from the air, instead of from lamps or an oven. This method has the advantage of making the heat available to all parts.

In the "pull through" method a vacuum pump is connected to one end and an air tank to the other end of the coil that is to be dried. A gas burner can be used to heat the air tank.

The intake of the dry air tank is through a cartridge dryer. The cartridge should be mounted so the incoming air travels upward, to prevent carrying the drying agent or water into the parts.

A vacuum can be drawn by closing the valve between the drying tank and the coil. In the process of drying, heated air from the dry air tank is drawn through the system until the system is warm throughout. Then the valve is closed, and a vacuum is drawn with the vacuum pump. From time to time additional hot, dry air is drawn into the system, and the process is repeated until drying is complete.

If the service engineer does not have a maximum temperature specification from the coil manufacturer, he should not allow the temperature to exceed 175°F .

In the "pressure" method, the tank must be air tight, and tested to twice the pressure used for drying. It should be equipped with a relief or safety valve set to pop at about 10% above the working pressure. A drain should be placed on the bottom of the pressure tank for removal of any water or oil which may be carried over from the compressor. Pressures used should not exceed 50 p.s.i., unless data on safer higher pressures has been obtained from the coil manufacturer.

In this method a compressor pumps dry air into the tank where it is heated. The compressor draws air through a calcium chloride cartridge so that it is as dry as possible when introduced into the tank. The pump should be controlled by a pressure switch actuated by tank pressure and adjusted to hold the pressure within proper limits.

In this system of drying, hot dry air is blown through the coil and tubing until the desired result is obtained. Much of the moisture in a system is likely to be trapped under an oil film. In either method of drying with heated dry air, the heat, lowering the viscosity of the oil film, permits the trapped moisture to escape.

When using either method of drying with heated dry air, the expansion valve should be removed from the line.

3. Drying the Evaporator and Refrigerant Lines with CO_2 Gas and Alcohol.

When an expansion valve freeze-up caused by moisture is corrected by applying heat to the valve body, the moisture passes into the evaporator and forms ice. It does not stay in the evaporator as ice, however, but becomes moisture again by sublimation and continually circulates through the system, causing another

INVEST NOW

Every domestic service organization should have in stock at least one set of Holl-Ines Caps, unconditionally guaranteed to eliminate terminal leaks on Crosley Hermetics.

A set of Holl-Ines Caps on hand is worth profits in your pocket. Sold only thru your jobber.

A jobber near you sells Holl-Ines Caps.

HOLL-INES DISTRIBUTING COMPANY
34 Fleetwood Road
Box 164 Dumont, N. J.

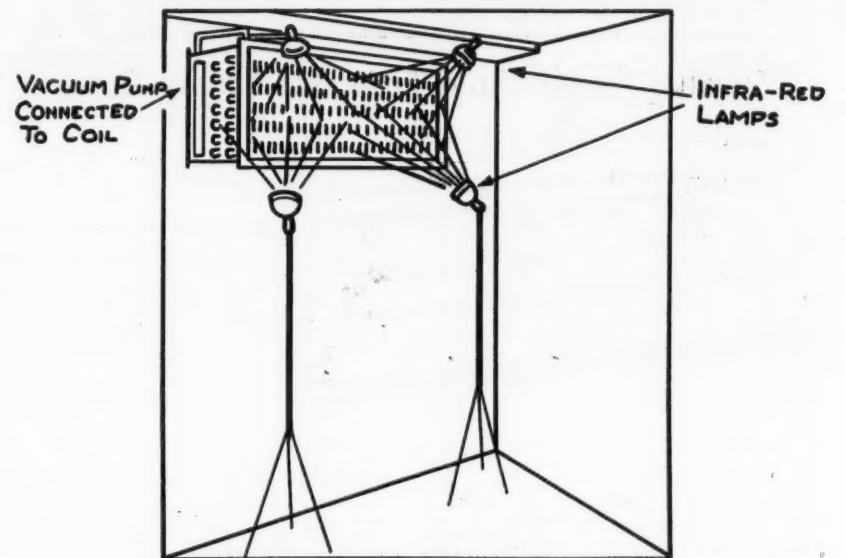
insist on
genuine

Marlo

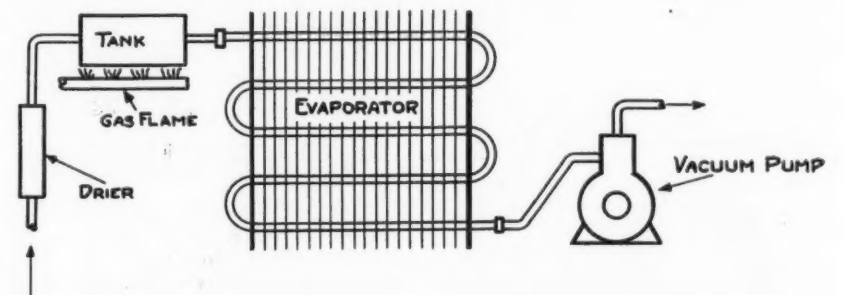
products

MARLO-HEAT TRANSFER
Since 1925

2 Possible Hookups for Drying Systems In the Field



This is a rough sketch of how the "heat and vacuum" method of drying is applied in the field. It is recommended that plenty of lamps be used so that the entire system will be thoroughly warmed.



Diagrammed here is the hookup for the "pull through" method of drying an evaporator. The intake of the dry air tank is through a cartridge dryer, and a gas burner can be used to heat the air.

freeze-up at the expansion valve.

Thus, moisture should be removed from the system to insure trouble-free operation.

Carbon dioxide in combination with pure methyl alcohol provides one means of drying out an evaporator. One precaution that is necessary is that when attaching a new drum of CO_2 to a system, first turn the drum upside down—let it stand for 5 minutes, and then bleed off a little of the gas through the valve. If any moisture happens to be in the drum, it will come out with this gas.

(Concluded on next page)

NIAGARA

"NO-FROST" METHOD WITH SPRAY COOLERS

... gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

NIAGARA BLOWER COMPANY
30 Years of Service in Air Engineering
405 Lexington Ave., New York 17, N. Y.

FOR Perfect REFRIGERATION on every job

"Recold" Dri-Fan Evaporative condensers and "Recold" standard floor units are designed to do a man-sized job of refrigeration in capacities to meet every application. Revolutionary in design, dependable performance, "Recold" equipment does the job right.

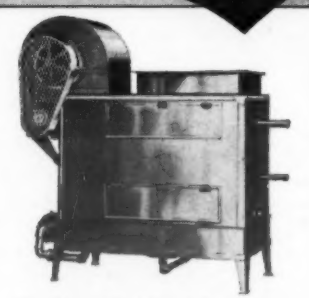
A COMPLETE LINE OF EVAPORATORS FOR EVERY NEED

Large or small ... standard temperatures or low temperatures ... for freon, methyl chloride, ammonia or brine, ... "Recold" products are designed to meet exacting specifications and deliver economical operation. Mail the coupon below for complete information on the "Recold" line.

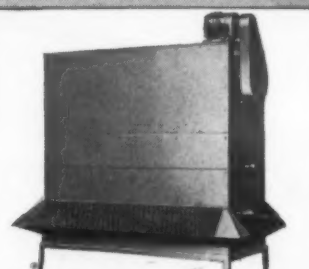


REFRIGERATION
ENGINEERING, INC.

7250 East Slauson Ave.
Los Angeles 22, Calif.



The New "Dri-Fan" Evaporative Condenser that completely eliminates corrosion in the fan section.



Standard "Recold" Floor Units are for temperatures above 34 degrees, for use with freon, methyl chloride or ammonia.

"RECOLD"
7250 E. Slauson Avenue,
Los Angeles 22, Calif.

Please furnish us with complete information on "Recold" equipment.

Name _____
Address _____
City _____ Zone _____ State _____

THAWZONE[®]
PATENTED

The PIONEER FLUID DEHYDRANT

DOES THAWZONE SAVE
SERVICE TIME BY
ELIMINATING MOISTURE
TROUBLES WITH ONE
APPLICATION?

THE
ANSWER IS
"Yes!"

SINCE THAWZONE COSTS
ONLY 8¢ PER POUND OF
REFRIGERANT, IS THIS
ECONOMICAL COMPARED
WITH OTHER DEHYDRANTS?

CAN THAWZONE BE
USED IN NEW, OLD
OR RECONDITIONED
REFRIGERATING
SYSTEMS?

ALSO MAKERS OF

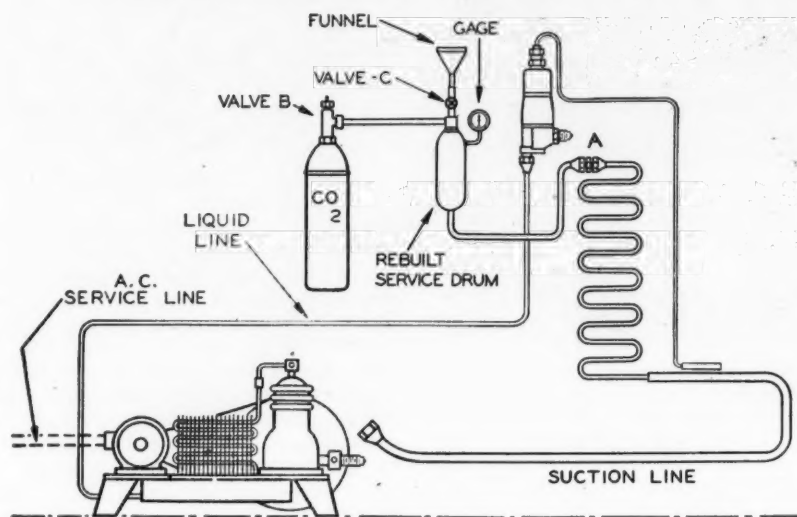
TRACE[®]
REFRIGERANT
LEAK DETECTOR

HIGHSIDE CHEMICALS CO.

195 VERONA AVE.

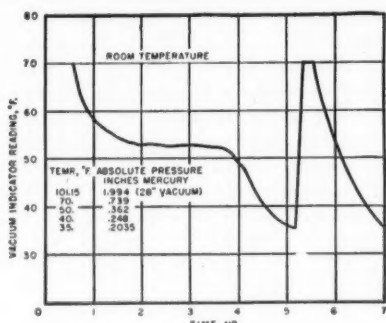
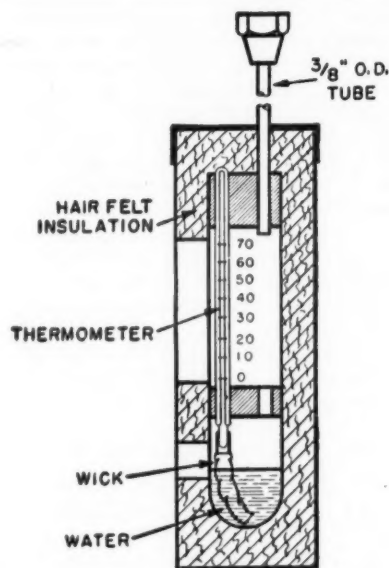
NEWARK 4, N. J.

*TRADE MARK REG. U. S. PAT. OFF.

Drying with CO₂ Gas and Alcohol

This is the hookup for the method of drying with CO₂ gas and alcohol. Recommended procedure is as follows: (1) Disconnect evaporator at both ends (expansion valve not in circuit) and allow it to warm to room temperature. (2) Make connection "A" to evaporator inlet. (3) With coil outlet connection open to atmosphere, also valve "C," open valve "B" until gauge shows approximately 200 p.s.i., and blow coil out thoroughly. (4) Close valve "B," open valve "C," and pour one quart of pure methyl alcohol into service drum through funnel.

(5) Close valve "C" and repeat step 3. Allow CO₂ to blow through until alcohol is cleared from evaporator and lines. (6) Apply torch to service drum, while CO₂ is flowing, to heat coil and evaporate all the alcohol. (7) Reassemble system immediately before evaporator cools down. If system is not to be reassembled at once, cap both ends of the evaporator, to prevent moisture from re-entering. (8) Apply permanent dryer when reassembling system. (9) Evacuate system thoroughly with system compressor before opening liquid valves.



ABOVE: A typical dehydration using the double evacuation method, with vacuum indicator readings plotted against time.

LEFT: Wet-bulb thermometer vacuum indicator, used in the double evacuation method drying. Use of this device is explained in the article.

Double Evacuation Boils Off Water at Low Temperatures

(Concluded from preceding page)

The method of drying with CO₂ and methyl alcohol is shown in Fig. 1. Warning: When utilizing this method be sure to ventilate the areas as an explosive mixture can be formed by alcohol vapor and air.

4. Double Evacuation Method of Drying.

Principle behind the double evacuation method of drying is that with a very low absolute pressure (high vacuum), water will boil at as low a temperature as 35° F., and by the use of a high vacuum with all parts of the system at or near room temperature, difference between room and suction temperatures can be established which will permit sufficient heat to flow into the system to evaporate the water.

When drying a refrigeration system by this method, a vacuum indicator, consisting of an insulated test tube containing a wet-bulb thermometer with its wick immersed in dis-

tilled water, is connected to the high efficiency vacuum pump suction line. The thermometer will register the boiling temperature of the water in the system.

When the dehydration operation is started the reading of the wet-bulb thermometer will be practically the same as room temperature (70° F.). There will be no change in this reading until the pressure is reduced to .739 in. mercury absolute (the vapor pressure* of water corresponding to 70° F.).

As the pressure is further reduced, the indicator reading will fall rapidly until the water in the system starts to boil, after which it will level out. After all free water has evaporated and has been pumped out of the system, the indicator will again fall rapidly as the pump removes air and water vapor. Evacuation should continue until the vacuum indicator shows a temperature of 35° F. at which time the absolute pressure in the system will be .2035 in. mercury.

If the system is then opened at the point farthest from the pump, and air or "Freon" gas is admitted while the pump is running, a portion of the vapor will be swept out of the system, and the remainder greatly diluted.

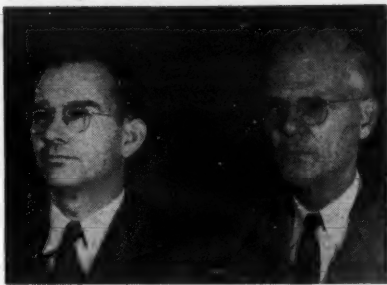
Then, by re-evacuating the system to 35° F. or .2035 in. absolute pressure, the moisture content can be reduced to a theoretical level of .054 grains of moisture per cu. ft., or approximately one part moisture per million parts of "Freon-12."

The three main steps in applying this method are:

1. Evacuate until vacuum indicator shows temperature of 35° F.
2. Open system at point farthest from vacuum pump with pump running and allow pressure to rise to atmospheric pressure.

3. Re-evacuate until vacuum indicator again shows temperature of 35° F.

Distributors



T. C. Cox G. L. Yarbrough

Baker Ice Co. Announces Yarbrough-Cox Appointment

SOUTH WINDHAM, Me.—The appointment of Yarbrough-Cox Co. of Kingstree, S. C. as distributor for Baker air conditioning and refrigeration products in the northeastern part of the state has been announced by Baker Ice Machine Co., Inc. here.

G. L. Yarbrough and T. C. Cox joined forces in 1946 to set up their firm in the refrigeration and air conditioning field.

Abbeville Mills Addition To Be Air Conditioned

ABBEVILLE, S. C.—Abbeville Mills Corp. has announced plans for immediate construction of a 70,000 sq. ft. addition to its plant here. R. C. Edwards, vice president in charge, said the plant addition, costing more than \$1,000,000, will be completely air conditioned and will employ about 250 additional workers.

For Easier Profits
KELVINATOR-REFRIGERATED
Electric Water Coolers

You get a sales-clinching head start on water cooler profits when you sell the famous Kelvinator name. Everyone knows that Kelvinator means dependable, low-cost refrigeration at its best. They like the easy, gliding action of the water-flow control of these popular coolers. Touch the lever *lightly*, turn it *slightly*. Instantly, you're ready to drink from a smooth, steady, easy-flowing arc of wonderfully cool water. Properly cooled water, properly served—that's the key to Kelvinator preference. Write for details on Kelvinator's complete line.

The EBCO Manufacturing Co.
Town and Lucas Street, Columbus 8, Ohio



REFRIGERATION BY
Kelvinator

MADE BY
EBCO MANUFACTURING CO.
COLUMBUS, OHIO
U.S.A.

EASY-BENDING
DRYSEAL TUBE

REVERE Dryseal Copper Refrigeration Tube is uniformly soft, so that you can bend it easily . . . and it won't split at the ends when flared. It has a new type of mechanical end seal that permanently keeps the interior of the tube clean and dry; and the seal is compact enough to pass through any opening large enough for the tube itself. In addition, Revere Dryseal is made to new, more economical dimensional standards. And it comes to you in a new package that protects the tube, keeps it bright and clean, and is readily identifiable in stock.

Revere Dryseal Tube comes in sizes from 1/4" to 3/4" O.D., and is packed two 50-foot coils to a package.

Next time you buy refrigeration tube, ask your Revere Distributor for Revere Dryseal—the easy-to-bend copper

refrigeration tube that assures you of fine quality in every length you buy.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere.

for draft and bottle
beverage coolers

IDEAL
Speed-Freeze
PRODUCTS

IDEAL COOLER CORPORATION
2933 EASTON AVE., ST. LOUIS 8, MO.

We've Got a...

FULL HOUSE!

**EVERYTHING FOR THE COMMERCIAL OR INDUSTRIAL
ELECTRIC REPAIR SHOP!**

WRITE FOR FREE, 238 PAGE ILLUSTRATED CATALOGUE
(On Your Letterhead, Please)

COMPLETE - READING ELECTRIC CO., INC.
108 S. JEFFERSON ST., CHICAGO 6, ILL. TELEPHONE: CENTRAL 6-5390

"Your Best Source of Supply"

Always specify

STANGARD

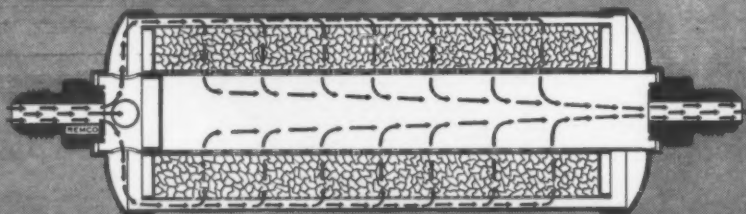
PRIME SURFACE COLD PLATES

STANGARD
REFRIGERATION CORPORATION OF AMERICA
NEWARK 5, NEW JERSEY - A DIVISION OF NOMA ELECTRIC CORP.

**EVER HAVE A
PLUGGED DRIER?**

**EVER FIGURE HOW MUCH
THEY COST YOU?**

**"Cross-Flo"
DRIER-FILTERS**
*positively will not clog or plug
and pressure drop is entirely eliminated*



*Here's the
Reason*

"Cross-Flo" incorporates an entirely new and exclusive principle of flowing the refrigerant uniformly and slowly across the thin, cylindrical bed of drying agent and then through a large, highly-efficient filter—thus is unlike most standard driers that force the refrigerant through a long, narrow, powder-clogged bed. This different principle of flow guarantees that clogging and pressure drop are 100% eliminated.

NOW AVAILABLE WITH:

SILICA GEL (for lowside, suction line or other cold locations)
DUCAL DRIERITE (for hot liquid line installation)

Sold by Leading Wholesalers Everywhere.

—CAPACITIES—

LIQUID LINE: 1/4 to 7 1/2 HP
LOWSIDE: 1/4 to 15 Tons (Freon 12)
SUCTION LINE: 3/8" to 1 1/2" OD

REMCO
INCORPORATED
ZELIENOPLE, PENNSYLVANIA

Informative, Technical Literature
and prices available on request.

West Coast Warehouse Stock
2103 So. San Pedro St., Los Angeles 11, Calif.

TELLING and SELLING

A GUIDE TO SMART ADVERTISING AND
MERCHANDISING PRACTICES

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies. Out of his experience embracing all types of advertising and merchandising he brings his counsel to the small businessman who must plan his own advertising and promotional efforts.

By James D. Woolf

The Generous Gesture

Occasionally, in your advertising, try doing the "handsome thing."

I believe in aggressive, hard-hitting selling copy. I believe in being vigorously competitive, provided you play fair and scrupulously avoid knocking your rivals. Highly competitive free enterprise is the American way.

But it isn't always smart to try to make every advertisement pay off on the barrelhead. Immediate sales is one of your objectives, but not the only one.

Equally important, over the long haul, is that of establishing yourself as a high-minded, magnanimous, civic-minded businessman genuinely interested in the welfare of your customers and your community.

THIS ADVERTISEMENT I LIKE

A lumber company in Alamogordo, New Mexico, recently ran a full-page advertisement in the state magazine that exemplifies what I'm driving at.

The advertisement is illustrated with a picture of farm land ruined by erosion due to lack of trees. The display headline: "Trees Won't Let This Happen To Your Land."

The copy: "Trees protect your whole farm. Costly erosion can't eat away your good soil if trees are standing guard. Clear-cutting your woods is an invitation to disaster. For information on how good harvesting can give you greater cash crops from your woods, and protect your land, too, see your county agent, or your local forester. Grow more trees."

That's all. The copy says nothing about the lumber company and how wonderful it is. It doesn't ask the farmer to come in and talk about it, and maybe buy something, but says "see your county agent, or your local forester."

AN IRRITATING PRACTICE

In another place I have written this: I have no patience whatever with at least 85% of the advertis-



ing that is appearing in our national advertising. It is *spectacularly devoid of information.*

Note, for example, current automobile copy: It is as barren of facts as the Sahara is of water lilies. It never gives the reader even an approximate idea of the car's price class.

I contend that the failure of advertisers to state at least approximate prices is a disservice to the public.

They do not stand alone in this irritating practice. More than anything else, consumers today want price information, but few advertisers are willing to oblige.

Failure to do so, I repeat, is a **DISSERVICE.**

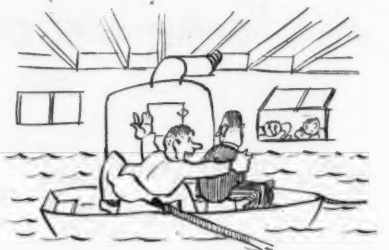
TRY TO BE HELPFUL

A great deal of advertising is as deficient in service as it is in information. People are interested in vital ways of doing things, and I believe that "HOW" is one of the greatest words in the advertising business.

Does your copy tell your readers how to do something—how to be smarter, happier, richer, healthier—how to live one's life in better, cheaper, easier, quicker ways?

Another wonderful way to be helpful is *never to oversell.* The dealer in whom his community has utter confidence is rendering a service. Has it ever occurred to you, in this connection, that underselling is effective as an action-getter?

Once a business associate of mine,



the late S. Roland Hall, had occasion to sell his Scranton home. Times were none too good, nobody knew what was ahead, and money was so tight that there was practically no home-building activity. Hall placed the sale of the house with a large and reputable real estate firm, but after a month of effort results were nil.

To most people, buying a house is like buying a pig in a poke. The average layman, forced to rely pretty much on the honesty of the seller, can be fooled easily enough.

So Hall wrote an advertisement for himself. He did the handsome thing with a piece of copy that was honesty in the extreme. "I hope you will like this house," he wrote, "and I really think you will. But maybe not. There are likely some things you won't care for. My wife thinks the kitchen is too small, there is a spare attic bedroom we have never been able to heat satisfactorily, and after a hard rain the cellar is damp for a week."

AD MENTIONS FAULTS, TOO

Then he went on to praise enthusiastically the good things about the house. "So you see," his copy concluded, "it's a beautiful home and it's sturdily built, and I honestly believe my price makes it a fine investment. But I do want you to know its faults, just to make sure you won't be dissatisfied."

As I recall it, Hall's advertisement produced more than two hundred prospective buyers, and the sale was quickly made. The previous advertisements, written by the real estate agents, oversold so patently that they produced not a flicker of interest.

The generous gesture paid off.

YOUR MOST PRICELESS ASSET

The other day I asked my printer to bid on a booklet. After looking it over, he said this to me:

"I don't believe I am equipped to give you top-quality results on this job. I can do it, and maybe what I do will satisfy you, but I feel I must honestly tell you that you can get a better result from my competitor down the street."

I gave the job to his competitor, but I gave him my lasting loyalty. He did me a service I shall never forget. Here was a generous gesture that paid off.



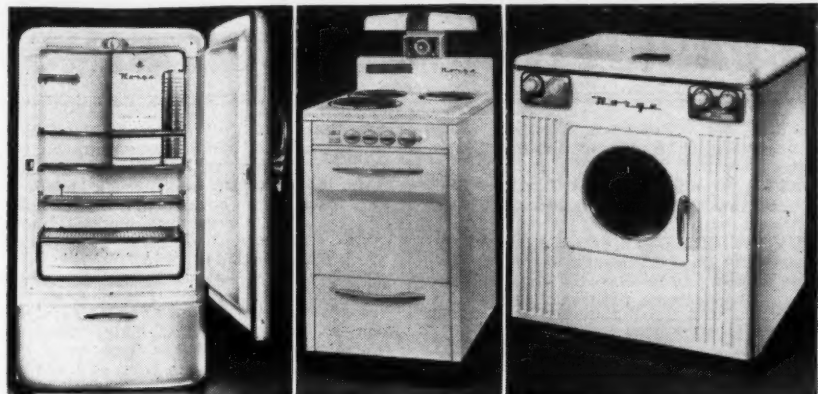
Are finish odors nosing you out of sales?

Musty finish odors from warm, non-operating refrigerator floor models can be sales-breakers.

That's why the news of completely odorless interior finishes is good news for all appliance men. These coatings based on VINYLITE Brand Resins are specially formulated for refrigerators and freezers. Not only are they odor-free at room as well as operating temperatures, but they are tops for all-around service. They form a tough, elastic, non-aging film so essential to long service life. These coatings resist food acids... and severe temperature changes... stay gleaming white for years of service. Discover what these new finishes mean to you in easier selling... extra customer satisfaction. Write for detailed information.

**Thompson
& Company**

1088 Allegheny Avenue
Oakmont, Pennsylvania



Norge showed a restyled refrigerator line, and several new appliances at its space in the Mart. At the left is one of the restyled refrigerator interiors. Center is the new apartment house electric range model, with electric light and timer-clock. At the right is the Norge automatic washer, which went on general display for the first time.

Norge Shows Several New Appliance Models

An expanded line of appliances, including several new products and a restyled group of refrigerators, was shown for the first time by the Norge division of Borg-Warner Corp. in connection with the opening of the Marts.

Eight new appliance models—two gas ranges, an electric range, a space heater, an "economy" model washer, a deluxe standard washer, an automatic washer, and a water heater—were presented.

Norge now has five electric ranges, including the new 20-in. "apartment" model with three top elements.

The space heater has been enlarged from four to five models, two of which are of the radiant type, and three circulating. Heating capacities range upward from 32,000 B.t.u. an hour to 65,000.

The new gas ranges are a 20-in., four-burner, "apartment" model, and a 36-in., center-cluster, center-oven "economy" model. Addition of these products brings to five the total number of gas range models produced by the company.

There are four standard washing machines in the new line. New at this show is a low-priced machine designed to sell for less than \$100. Clary emphasized that this is not a "stripped" model, but a high-quality, full-size washer designed to meet the needs of thousands who are finding it more and more difficult to obtain good appliances because of increased living costs. It has an all-porcelain tub with an 18-gal. capacity, and will wash approximately eight and one-half pounds of clothes.

Also being shown is a deluxe standard washing machine, which, among other features, incorporates an auto-

matic timing device which shuts off the motor when the wash has been completed.

In addition, the new Norge automatic washer was placed on general display for the first time. To date this product has had a limited introduction in a number of eastern and midwestern cities, primarily for final test purposes.

A new table-top electric water heater, built to such dimensions that it may be used with modern cabinets and other appliances in large or small kitchens, was also introduced. This is available in two models with capacities of 30 and 40 gallons.

Greatest changes have been made in the refrigerator line which has been completely restyled, partly in accordance with consumer preferences indicated in a recently completed public opinion survey.

Highlight features of these new models, of which there are seven, are alterations of some freezer compartments to provide for greater ice cube capacity, inclusion of the automatic defrosting system in three models, further development of "contour" styling in exteriors, new easy-opening door handles, and introduction of a 10-cu. ft. model designed primarily for farm use.

Amana Introduces New 9-Ft Combination Model

Amana Society's Refrigeration Division was to show its new Model FR-9 freezer-refrigerator at the American Furniture Mart following the unveiling of the unit at a distributor sales meeting in the Sheraton hotel Jan. 5.

The new model, of 9-cu. ft. total capacity, has two separate and independent compartments. Both are serviced by separate doors.

One door opens into an aluminum-lined freezer and ice cube compartment which has a capacity for 60 lbs. of frozen foods. The other door opens into a 7-cu. ft.-plus high-humidity section with adjustable, removable, stainless steel shelves giving 12½ sq. ft. of shelf space.

Automatic interior lighting is a feature of both compartments. Temperature indicators are built into each door and each compartment has its own temperature controls.

"The refrigerator needs no defrosting because frost never accumulates and the high humidity in the refrigerator compartment makes it unnecessary to cover foods," the company said.

Dimensions of the model are 62½ in. high, 32 in. wide, and 24 in. deep. According to George Foerstner, head of the Refrigeration Div., the FR-9 is now in production and will be ready for delivery within 60 days.

Admiral Broadens Its Refrigerator Line

Broadening of its refrigerator and range lines and lower pricing policies for 1949 were emphasized by Admiral Corp. It was also announced that the company is planning to more than double its 1948 refrigerator production.

Admiral has added three new conventional models—two 8-cu. ft. boxes and one 10-cu. ft. unit—to its refrigerator line and two new models to its range line "to compete in every price bracket." The refrigerator line now consists of seven models (five conventional and two Dual-Temp) and the range line of four models.

Besides adding the new models, Admiral has made some design changes in both lines. Improvements contained in the Dual-Temp refrigerators include "more efficient" interior shelf spacing allowing added storage room, two plastic vegetable drawers operating on roller bearings, and rounded contours on all trim.

Three of the 1949 ranges feature the "pop-up" unit that makes available four surface units when the deep-well cooker is not in use. Chief added feature of the deluxe model is two full ovens instead of one.

Retail prices of the two lines were announced as follows:

REFRIGERATORS

819-A*	\$229.95
819-B*	249.95
829	269.95
1019*	269.95
1029	299.95
749 (Dual-Temp)	389.95
959 (Dual-Temp)	439.95

*New models.

RANGES

S-0*	\$199.95
S-1*	249.95
S-2	299.95
S-3	349.95

*New models.

Price of the model S-0 range is said to be \$60 lower than any previous Admiral range. Price of the 7-cu. ft. Dual-Temp refrigerator has been reduced \$10, according to an Admiral executive.

Kelvinator 8.6-Cu. Ft. Cabinets Get Attention

Visitors to the Kelvinator show space were centering their attention on the model TM two-door combination refrigerator-freezer, and the two new 8.6-cu. ft. refrigerators, which replace the former 7-cu. ft. models.

These new 8.6-cu. ft. refrigerators are only 1 in. taller than the former 7-cu. ft. models, and according to company officials, actually take up less room in width and depth. The RS retails at \$249.95, and the RD at \$279.95.

The two-door TM, it was pointed out, occupies the same kitchen floor space as a conventional unit, and stands only a trifle higher.

Hotpoint Unveils Its Automatic Washer

Emphasis in the Hotpoint space was on the firm's new automatic clothes washer.

Also on display were the nine models making up Hotpoint's 1949 refrigerator line. Making up the line are three 10-cu. ft. models, four 8-cu. ft. models, one 6-cu. ft. unit, and one 4-cu. ft. model.

Housewares Show Exhibitors

(Concluded from Page 1, Column 3)

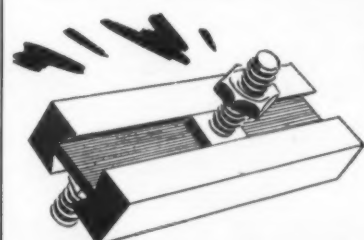
for the show for the first time, was chosen partly because of its easy accessibility to the Loop. Buddenberg said that the show would run from Thursday to Thursday, but would not be open on Sunday, Jan. 16.

List of Exhibitors

NAVY PIER

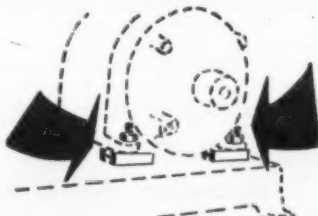
Name	Space
Abco Metal Products	494
Alabama Mfg. Co.	436
Aluminum Cooking Utensil Co.	591-593-595
Aluminum Goods Mfg. Co.	140-142-144-146
Aluminum Specialty Co.	753
Asquith Associates, Inc.	798-800
Associated Plastic Companies	807-809
Berns Mfg. Co.	881
Bersted Mfg. Co.	112-114
Birtman Electric Co.	274
Block & Co.	293-295
Block, J. & I.	716-718-720
Borg-Erickson Corp.	229-231
Brewer-Titchener Corp.	200
Buckeye Aluminum Co.	616-618
Camfield Mfg. Co.	C435-C437
Capital Products Co., Inc.	895
Casco Products Corp.	283-285-287
Chicago Electric Mfg. Co.	129-131-133-135
Clark Co., J. R.	659
Clarvan Corp.	408-410
Clements Mfg. Co.	291-X
Climax Machinery Co.	466
Club Aluminum Prod. Co.	540-542-544-546
Corning Glass Works	525-527-529
Cory Corp.	500
Craftmaster Products Co.	489
Davies Molding Co., Harry	835
Davis Mfg. Co.	767
Dazey Corp.	632
Dominion Electric Corp.	220-222
Dorby Co.	638
Dormeyer Corp.	277-279-281
DuBoff & Co.	469-471
Duralux Co.	620
Ekco Products Co.	248-250-252-254-256-258-260-262-264-266
Emerson Electric Mfg. Co.	802-804
Enterprise Aluminum Co.	693-695-697
Everedy Co.	731-733
Excel, Inc.	887
Farber, Inc., S. W.	605-607-609
Fasco Industries, Inc.	228
Finders Mfg. Co.	348
Fresh'nd-Aire Co.	500
Geier Co., P. A.	212-214-216-218
General Electric Co.	576-578-580-582-584-586-588-590
General Floorcraft, Inc.	299
General Mills, Inc.	418-420-422
Geuder, Paeschke & Frey Co.	275
Glencoe Electric Co.	670-672
Hamilton Beach Co.	141-143
Hamilton Mfg. Corp.	341-343-345-347
Hanovia Chemical & Mfg. Co.	376
Herculean Appliance Corp.	263
International Appliance Corp.	257
Ironrite Ironer Co.	245-249
Kamkap, Inc.	552
Keko Products Div., Kennedy Car	
Liner & Bag Co.	882
Kisco Co., Inc.	284
Kitchen Aid Div., Hobart Mfg. Co.	269-271-273
Kitchen Queen, Inc.	478
Knapp-Monarch Co.	524-526-528-530
Kordite Corp.	396
Kromex Corp.	183-185-187
Lakeside Aluminum Co.	C-303
Landers, Frary & Clark	189-191-193-195-197-199
Le John Mfg. Co., Inc.	498
Lewyt Corp.	241
Liberty Electric Co.	457
Lisk-Savory Corp.	184-186
Lyon Metal Products, Inc.	265-267
Manning-Bowman Co.	116-118
Marquette Appliances, Inc.	826-828
Marvel Metal Products Co.	823
Master Appliance Mfg. Co.	416
Mayer Co., Inc., William F.	169-171
Metal Ware Corp.	434
Mimar Products, Inc.	867-869
Miracle Electric Co.	703
National Carbon Co., Inc.	417-419-421-423
National Die Casting Co.	604-606
National Enameling & Stamping Co.	541-543-545-547
National Pressure Cooker Co.	318-320-322
National Stamping & Electric Works	663
Naxon Utilities Corp.	361
Nicro Steel Products, Inc.	428
Noma Electric Corp.	572-574
NuTone, Inc.	532-534-536-538
Oster Mfg. Co., John	892-894
Phoenix Table Mat Co.	296-298
Plastray Corp.	810
Porter Steel Specialties, Inc.	880
Precision Mfg. Co., Inc.	425-427
Premier Mfg. Co.	159
Prevore Electric Mfg. Corp.	C-299
Regina Corp.	871
Republic Molding Corp.	786
Revere Copper & Brass, Inc.	516-520-522
Reynolds Metals Co.	391-393-395
Rittenhouse Co., Inc.	306
Rival Mfg. Co.	132-134-136-138
Samson United Corp.	666-668
Sherwin-Williams Co.	301-303-305
Schwitzer-Cummins Co.	885
Seal Sac, Inc.	153-155-157
Silex Co.	276-278-280-282
Smith Mfg. Co., Inc., F. A.	228
Son-Chief Electric, Inc.	690-692
Spartan Co.	401
Sperli Faraday, Inc.	226
Steel Products Mfg. Co.	196-198
Sunbeam Corp.	651-653-655-657
Superior Electric Products Corp.	239
Swartzbaugh Mfg. Co.	172-174
Taylor Instruments Co.	165-167
Telechron, Inc.	168-170
Textile Mills Co.	779
Toastmaster Products Div., McGraw Electric Co.	188-192
Toastswell Co.	775
Tracy Mfg. Co.	292-294
Traubee Products, Inc.	485
Victor Products Co.	866-868-870
Vischer Products Co.	664
Voss Co.	409
Wagner Mfg. Co.	512
Waring Products Corp.	473-475
Washburn Co.	308-312
Welmaid Products, Inc.	577-579
West Bend Aluminum Co.	551-553-555
Whirlwind Fan Div., Detroit Mfrs. Supply Co.	483
Winsted Hardware Mfg. Co.	477-479
Zim Mfg. Co.	240

Details of Kelvinator's 1949 two-door combination refrigerator-freezer, model TM, is explained to Harry M. Lucas (left), president, Lucas Appliance, Inc., by H. A. Dahl, Kelvinator's Chicago zone manager. This model also retains the "full-length" door styling introduced by Kelvinator last year.

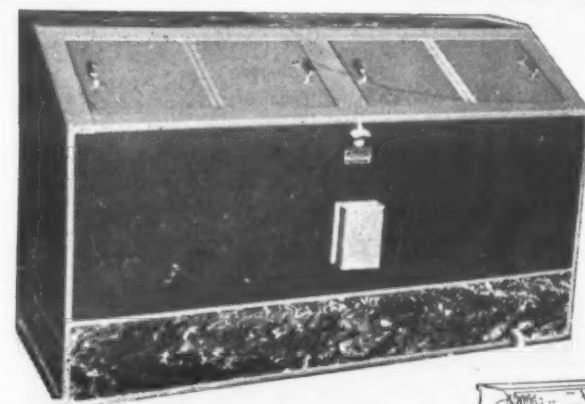


Sold by Leading Jobbers from Coast to Coast!
The Motor Base Adapter Plate

Install that motor; it fits the base—any base. No drilling or filing. No holes out of line. No rotor shaft too long or too short. Carry motors and adapters in every service car.



Inquiries from JOBBERS invited
MOTOR ADAPTER CORPORATION
4730 JOY ROAD DETROIT 4, MICHIGAN TYLER 6-1224



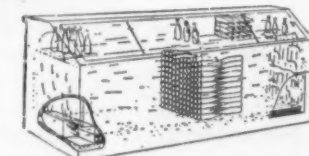
Zero Plates as cold as
6 degrees below

ZERO

With air at BLIZZARD Speed, Cools Beverages faster than any other cooler. Yet a control keeps the beverages at the exact desired temperature.

Manufactured by

ZERO-PLATE CO.
1400 S. HASKELL AVE.
DALLAS, TEXAS



34 case complete with
½ compressor unit
List \$736.60

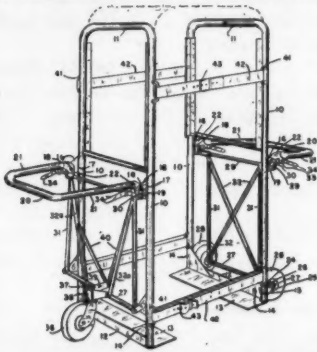
Dealers Wanted

JOE BOOTH CO.
901 COLLARD ST.
FORT WORTH, TEXAS

PATENTS

Week of October 5
(Continued)

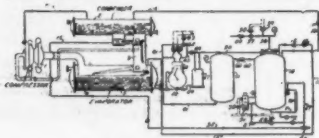
2,450,690. TRUCK FOR HANDLING ELECTRIC REFRIGERATORS AND THE LIKE. Jack B. Robins, Colorado Springs, Colo., assignor to Aircraft Mechanics, Inc., Colorado Springs, Colo., a corporation of Colorado. Application Dec. 17, 1946, Serial No. 716,725. 3 Claims. (Cl. 280-44.)



1. A truck comprising an elongated frame closed at the top and open at the bottom, a load supporting plate connecting the lower ends and projecting laterally therefrom, an axle positioned near the bottom of the frame, at least one wheel carried by the axle, means connecting the axle with the frame to permit it to move a limited distance in the direction of the frame, a handle pivoted to the frame at a point above the axle, a pusher frame connected at its lower end with the axle, the upper end of the pusher frame having a transverse bar, means constraining the bar to move in an arcuate path substantially concentric with the pivot handle, means comprising a portion of the handle for moving the bar in a downward direction, means for holding the bar in its lowermost position, and means comprising a lever pivoted to the handle for engaging the bar to move it from its lowermost to a higher position.

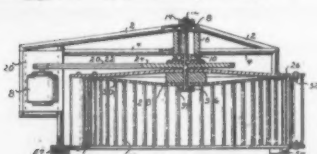
2,450,707. PURGING SYSTEM FOR REFRIGERATING SYSTEMS. Joseph R. Ewick, East Orange, N. J., assignor to Worthington Pump and Machinery Corp., Harrison, N. J., a corporation of Delaware. Application June 6, 1945, Serial No. 597,949. 19 Claims. (Cl. 62-115.)

1. The method of purging a closed refrigeration system containing a volatile refrigerant and including a condenser and an evaporator, of polluting agents such as air, water, and oil which comprises taking from the condenser uncondensed refrigerant and water vapor mixed with noncondensable gases and subjecting



the mixture to a temperature lower than the temperature in the condenser, which lower temperature is produced by evaporation of refrigerant at a lower pressure so as to condense the greater quantity of condensable vapors in the mixture, collecting the residual mixture of noncondensables and condensable vapor not condensed by said first condensing action, taking off a part of the collected mixture when its pressure reaches a predetermined degree, compressing the taken off part of the mixture, separating oil from the compressed mixture, subjecting the remaining compressed mixture to condensing temperature sufficiently low to condense practically all of the condensable vapors in the mixture, separating the condensed water vapor from the condensed refrigerant vapor, and returning the condensed refrigerant vapor as liquid to the system.

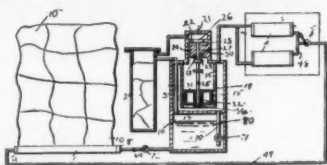
2,450,708. CENTRIFUGAL FAN. Paul Anderson, San Antonio, Tex.



1. In a centrifugal fan, a plurality of spaced parallel vertically-disposed legs supported on a horizontal surface, a first plurality of horizontally-disposed radial frame arms secured to the upper ends of said legs, a vertically-disposed cylindrical

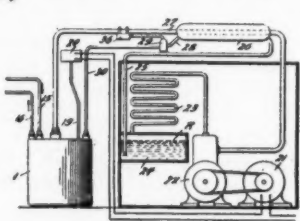
housing supported by the other ends of said frame arms, a shaft rotatably mounted in said housing, a circular plate positioned below said frame arms and secured to said shaft, a convex baffle plate arranged below said circular plate and secured to the latter, a plurality of spaced parallel vertically-disposed blades each having its upper end secured to said circular plate, a ring spaced below said circular plate and secured to the lower ends of said blades, a horizontally-disposed pulley interposed between said circular plate and said frame arms, a vertically-disposed bracket secured to one of said legs, a drive motor carried by said bracket, and belt means operatively connecting said pulley to said motor.

2,450,713. REFRIGERATING SYSTEM USING DRY ICE AND INCLUDING A SECONDARY HEAT EXCHANGE CIRCUIT. Rex L. Brunson, San Francisco, Calif. Application July 13, 1946, Serial No. 683,511. 12 Claims. (Cl. 62-91.5.)



8. In a refrigerating system of the character described, a vertically disposed chamber having vertical side walls, a top, and a bottom, a horizontal partition dividing said chamber into an upper compartment and a lower compartment for admitting a liquid refrigerant into the same, a discharge outlet in said lower compartment for discharge of a liquid refrigerant therefrom, a valved passage-way communicating between said upper compartment and said lower compartment for passing liquid from the upper one to the lower one, a cylindrical wall depending from said top, a cylindrical float vertically reciprocable within said wall upon rising and falling of the float as the liquid level rises and falls, said wall having drain holes formed therein spaced from the upper end thereof and being imperforate above said holes for providing a gas trap between the uppermost of such drain holes and said top, a gas pressure line communicating with said lower compartment and a vent for establishing communication between said upper compartment and its lower one, valve means actuable by said float upon rising and upon falling to predetermined limits for opening and closing said vent.

2,450,735. APPARATUS FOR REFRIGERATION OF LIQUORS. Hylton B. Millet, New Orleans, La. Application Sept. 3, 1947, Serial No. 771,891. 15 Claims. (Cl. 62-7.)

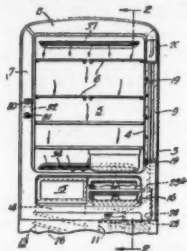


1. In a cooler for liquids, the combination of an outer closed container adapted to receive a refrigerant, means to feed liquid refrigerant thereto, an inner expansion, accumulator, and separator chamber disposed in said container, said chamber being adapted to have a layer of oil on the bottom thereof, means for delivering refrigerant from said outer chamber to said expansion and accumulator chamber, a coil for liquid to be cooled surrounding said accumulator and expansion chamber, a suction pick-up conduit disposed in said expansion and accumulator chamber and extending to a point adjacent the bottom of said inner chamber, suction means for withdrawing gaseous refrigerant carrying entrained oil from the pick-up conduit, means for maintaining a predetermined temperature in any liquid refrigerant fed into said outer container, and means located outside of said outer container for controlling the liquid refrigerating means and arranged to maintain a substantially constant liquid refrigerating level in said outer liquid refrigerant container when the cooler is in use.

2,450,823. HUMIDITY CONTROL MEANS RESPONSIVE TO MOVEMENTS OF A REFRIGERATOR DOOR. John J. Bauman, Abington, Pa., assignor by mesne assignments, to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application June 30, 1944, Serial No. 542,888. 5 Claims. (Cl. 62-6.)

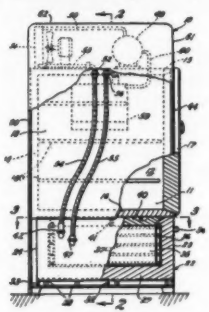
1. In a refrigerating apparatus comprising a refrigerated space, a door affording access to said space, means actuated by movements of the door to closed position for regulating humidity

within said space, and a timing device for limiting maximum duration of operation of the regulating means between successive actuations, said device being



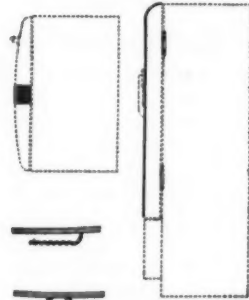
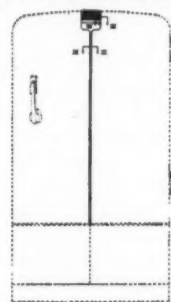
adjustable to varying extents affording correspondingly varying time increments for continuous operation of said regulating means, and means actuated by the door in closing for adjusting said device to a predetermined normal extent for each said closing, said means being responsive to a predetermined short lapse of time between successive door closings to adjust said device to an extent exceeding said normal and affording a correspondingly extended period of continuous operation of said regulating means.

2,450,844. REFRIGERATOR PROVIDED WITH A REFRIGERATED DRAWER. Fred W. Stuart, Cincinnati, Ohio. Application Dec. 13, 1944, Serial No. 567,979. 16 Claims. (Cl. 62-116.)



DESIGNS

151,277. DESIGN FOR A REFRIGERATOR CABINET. John M. Little, Toledo, Ohio, assignor to Westinghouse Electric Corp., a corporation of Pennsylvania. Application Nov. 21, 1946, Serial No. 134,967. Term of patent 14 years. (Cl. D67-3.)



The ornamental design for a refrigerator cabinet, substantially as shown and described.

1. In a device of the class described the combination of a refrigerating unit, a sliding compartment disposed in vertical, spaced relationship with the unit, a refrigerant evaporator in the compartment, a direct refrigerant expansion means affixed to the compartment and connected to the evaporator, and refrigerant transmitting means between the unit and the evaporator for permitting sliding movement of the compartment.

AVAILABLE FOR LICENSING OR SALE

Pat. 2,385,579. FROZEN CONFECTION DISPENSER. Patented Sept. 25, 1945. Removable device will dispense small portions of ice cream or the like from a can to fill individual orders. A cover plate removably secured to top of can carries a motor and suction pump on its top. A lower plate is freely slidable vertically inside can. Suction side of pump is connected by a conduit to a hood mounted over apertures in lower plate. A driven shaft extending downwardly through both plates has its lower end bent to form a horizontal arm. A scraper blade is mounted on under side of arm. When scraper is rotated, it cuts a layer from top of contents of can and carries cut portion around beneath lower plate to the apertures so that pump will dispense the cut portion. Lower plate and scraper are free to move downwardly, following the changing level of contents of can. (Co-owner) Irving King, King Investment Co., 129 West Third St., Los Angeles 13, Calif. Groups 33-73, 35-51. Reg. No. 10,011.

WHITE PORCELAIN ENAMELLED SHEETS

Made from prime enamelling steel. Other colors available. Can take on a limited number of new accounts for steady supply.

QUALITY PORCELAIN ENAMEL MFG. CORP.
228 Lator St., Trenton, N. J.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion 50 words or under. 5¢ ea. additional word.

RATES for all other classifications \$5.00 per insertion 50 words or under. 10¢ ea. additional word.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

DO YOU have a help problem? Let us solve yours. Available—well trained selective men. These men have completed a course of 34 weeks consisting of practical shop refrigeration. Send for our records. Well trained men for a good job. Available for all parts of the country. THE ST. LOUIS SCHOOL FOR ELECTRICITY & REFRIGERATION, INC., 6767 Southwest Ave., St. Louis 17, Mo.

MANUFACTURERS' REPRESENTATIVE for Ohio, Indiana, Kentucky and Michigan open for products to sell to jobbers and manufacturers. Ten years selling experience in refrigeration and air conditioning. BOX 3045, Air Conditioning & Refrigeration News.

MAN WITH 20 years experience in sales and engineering of refrigeration products with national coverage desires to locate in Detroit area. Offers exceptional record of performance and proved ability. Complete details on background and experience will be sent on request or will welcome personal interviews. BOX 3048, Air Conditioning & Refrigeration News.

SALES EXECUTIVE of many years experience is in a position to represent you in the middle west. Headquarters Chicago. Would prefer product associated with appliance manufacturers, especially household and commercial refrigerators. Past performance available. BOX 3062, Air Conditioning & Refrigeration News.

EXPERIENCED MATURE salesman seeking an established line to sell to restaurant supply, refrigeration dealers, store fixture dealers, appliance dealers. Territory western Penna., western New York, Ohio, West Va., lower Michigan, Indiana. Reliable, honest, fair. BOX 3068, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

OPPORTUNITY FOR dairy equipment salesmen calling on refrigeration dealers. We need representatives in several territories. Agent should have kindred but not competitive lines. Product—outstanding packaged aerator milk cooler for farm use. In first letter give references and territory now traveling. STAR PUMP & COOLER CORPORATION, 1218-24 N. 15th St., St. Louis 6, Mo.

SALES ENGINEER; one of Carrier's leading distributors of air conditioning and refrigeration has this opening for one who can assume full responsibility of engineering, estimating, and sale of his own jobs. Applications to 100 tons capacity. Must be thoroughly experienced. We are well established and financed. Located in large middlewestern city. Write full details of experience, age, etc. Guaranteed salary and commission. Your reply will be in confidence. Interview at our expense. BOX 3007, Air Conditioning & Refrigeration News.

WANTED—SALES manager to do an aggressive job for established distributor of nationally known and accepted line of display cases, reach-ins, walk-ins, etc. Must be capable of rounding out existing sales personnel, training, store planning for minimum annual volume of \$500,000. Large midwestern city—excellent remuneration. BOX 3027, Air Conditioning & Refrigeration News.

COMMERCIAL REFRIGERATION sales manager—distributor for 14 years handling leading national brand with complete line of commercial refrigeration and air conditioning equipment and having territory covering states of Arizona, New Mexico, and portion of Texas, has opening for sales manager. Prefer person having experience selling commercial refrigeration and air conditioning equipment and capable of developing aggressive dealer organization. Good opportunity and future with remuneration on the basis of salary plus percentage on sales. Traveling expenses paid and car furnished. Headquarters in El Paso, Texas. Write, giving full details as to qualifications, experience, age, etc. and enclose photo. BOX 3052, Air Conditioning & Refrigeration News.

CONDENSING UNIT manufacturer has opening for district manager on commercial refrigeration work. Salary and expenses. Prefer resident of Middle Atlantic states familiar with trade in that area. State age, education and experience in first letter. Our employees know of this ad. BOX 3061, Air Conditioning & Refrigeration News.

DISTRICT SALES manager for manufacturer of air conditioning equipment for territory consisting of Michigan, Indiana, Ohio, Kentucky and West Virginia. Right man should have air conditioning background, preferably with a manufacturer, and experience in handling dealers and distributors. This position calls for a \$10,000.00 a year man. In reply, give age and full details of background. BOX 3063, Air Conditioning & Refrigeration News.

SALES ENGINEER with previous refrigeration wholesaler experience needed by independent Ohio wholesaler to contact industrial accounts, dealers, distributors, contractors, servicemen. Salary and commission. Give complete background, age, compensation desired. All replies confidential. BOX 3065, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

RECORDING THERMOMETERS, Bristol, remote 7 day electric, \$69. Thermostats, Mercoild, minus 10° to plus 40°, \$15. Heat exchangers, Acme, 3 ton @ \$27; 2 ton @ \$20. Evaporative condensers, Mario E C 5, \$335. Tunnel blast freezer complete 1,800 basic rating, \$535. New 1 H.P. to 7 1/2 H.P. water cooled Universal and Copeland at

less than distributor's cost. Used Westinghouse 60 ton condensing unit—bargain! 3'6" x 8'6" Jamison double batton automatic close doors with track heads for 72" track, 1 1/2" cork board insulation at \$95 each. All new in original factory crates. BIMEL COMPANY, 2800 Colerain Ave., Cincinnati 14, Ohio.

SEALED UNITS rebuilt and exchanged. Prompt service on Coldspot (sealed & semi-sealed), Chieftain, Gale, Tecumseh, Norge and many others. One year guarantee. Write for price list and shipping instructions. BRIGHTON, 3906 Joy Rd., Detroit 6, Michigan.

FOR SALE—Binks 300 g.p.m. spray type cooling tower—excellent condition with new supporting structural steel tower for 25' elevation. Bargain for the man with a cooling problem. FAIRFIELD COUNTY ICE CO., 528 Canal St., Stamford, Conn.

DETROIT VALVES—due to reduction of inventory at manufacturer's cost. 425-677 F15# \$3.50; 860-674 F15# \$5.25. GRAND RAPIDS CABINET CO., Grand Rapids, Mich.

FOR SALE 3-HP water cooled, "Freon" Copeland machines with 3-HP 3 phase motors \$248.00 each. Ten model 495 5-HP Copeland water cooled "Freon" machines equipped with 26 Copeland compressors and 5-HP 3 phase motors \$278.00, all F.O.B. Kansas City, Missouri. These machines are brand new in original Copeland crates and carry the one year factory guarantee. 10% deposit required with all orders, balance C.O.D. THE NAT CORPORATION, 2710 McGee, Kansas City, Missouri.

SUBJECT TO prior sale: Hermetic Chieftain units—1/4 H. P., \$44.50; 1/2 H. P., \$48.50. Other well known hermetics: 1/4 H. P., fan cooled, \$52.50; 1/2 H. P., fan cooled, light duty, \$57.50; 1/2 H. P., fan cooled, heavy duty, \$59.50; 1/2 H. P., fan cooled, \$69.50. Open units, standard makes: 1/4 H. P., \$54.50; 1/2 H. P., \$64.50; 1/2 H. P., \$84.50. Above prices quoted on lots of six. All open units are 60 cycle, single phase. All above units new, carrying factory warranty. Write for unit list. Penn type 260 Apol low pressure control, \$4.25. Penn type 262 Apol high pressure control, \$4.25. Minneapolis-Honeywell dual pressure control, \$4.50. Detroit Lubricator low pressure control, \$4.25. G. E. blower fan motor with 10" fan, \$4.50. Superior heat exchanger, 13" over-all, 3/4" x 3/4", \$4.25. Mueller heat exchanger, 14 1/2" over-all, 3/4" x 3/4", \$5.00. Kramer Trenton panel blower complete, 1/2 ton, \$30.00. Superior master drier 1/4" flare x 1 1/4" x 5 1/2", 75¢. U. S. "Freon" gauge, 4 1/2" face, 30" vac., 150# or 300#, with corresponding temp. scale with red warning hand and mounting holes, \$4.50. Scientific Instrument Co. dial thermometer, 4 1/2" face, minus 40 to plus 120, 5 ft. tube, \$4.50. 1 set U. S. "Freon" gauge, 2 1/2" face, 100# compound and 300# pressure, temp. scale, recal. and mounting holes, \$3.50. Ranco type KW-412 cold control complete, \$4.00. American Injector oil separator, 1/2 ton, \$3.50. Cold plates 1-30" x 55", 2-30" x 64", 3 to a set, \$35.00. 6-5 lb. cans Davison refrigeration silica gel, \$6.00. 1-5 lb. can Davison refrigeration silica gel, \$1.10. Crouse-Hinds vapor proof refrigerator light, with guard, \$2.50. WALTER W. STARR, 1207 George Street, Chicago 13, Illinois.

EMERY THOMPSON 2 1/2 gal. self contained ice cream machine, air cooled compressor, with custard controls, 70 gal. stainless steel hardening cabinet, with or without compressor, brand new, 50% off list. 6' and 8' McCrays, 2-10" Hill, top display cases, \$50 each. WATERTOWN STORE FIXTURES, 225 King, Watertown, N.Y.

BEAUTIFULLY DESIGNED and equipped sea food, salad, & cocktail bars. Occupies less than six square feet of floor space. Wired for illumination. Sturdy stainless steel, chrome and glass. Equipment includes beautiful chrome and glass serving accessories for forty-eight. Hundreds sold for \$1040.00; few remaining, \$395.00. Orders accepted subject to prior sales, literature upon request. BOX 3056, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

MIAMI, FLORIDA—a leading refrigeration, air conditioning, television, and appliance sales and service establishment—in same Miami location ten years. Grossed \$150,000 and netted \$20,000 last year. Will sell for \$7,500 to cover truck, equipment, and improvements plus merchandise inventory at cost—about \$8,000. BOX 2992, Air Conditioning & Refrigeration News.

PARTNER WANTED—for established air conditioning and commercial refrigeration business in New York City. Have valuable dealerships. Sales ability and experience in line more essential than capital. Real opportunity for right party. BOX 3049, Air Conditioning & Refrigeration News.

WILL SELL sheet metal shop, well equipped to do work in light and heavy gauges, with air conditioning and warm air heating department, located in Georgia city of 100,000 population. Owner has other interests. Apply BOX 3057, Air Conditioning & Refrigeration News.

WANTED REGIONAL DISTRIBUTOR SUPERVISORS

One for Western Central Region and one for Eastern Central Region by internationally known manufacturer of commercial and industrial air conditioning and refrigeration machinery.

Men must have successful sales record in the industry. Responsibility to be establishing and directing of distribution. Position offers excellent opportunity for permanent connection with substantial income for capable men.

Our organization knows about this advertisement and all communications will be held in strict confidence.

Write giving qualifications to Box 3059, Air Conditioning & Refrigeration News.

Subscribe Now

Receive the greatest trade paper in the Industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on household refrigeration, commercial refrigeration, air conditioning, home freezers; manufacturing, distributing, retailing, servicing, and contracting. Only \$5 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS
450 West Fort Street, Detroit 26, Michigan

Gentlemen: Send the NEWS for one year.

☐ \$5 enclosed ☐ Bill me ☐ Bill the company

Name.....

Company.....

Street.....

City..... Zone..... State.....

Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Motor Trouble (2)

Another frequent cause of motor trouble is overload, but there are so many causes of overload that it merits some discussion.

TIGHT COMPRESSOR

Probably the most common cause of overload of a motor driving a refrigeration compressor is what is usually referred to as a "tight compressor." This term covers mechanical tightness in the compressor—frozen bearings or pistons, broken suction valves or piston rings, or any other mechanical condition in the compressor that makes it too hard to turn and imposes too heavy a load on the motor.

The causes of these mechanical faults are too involved to be covered in detail in a discussion of motor trouble, but one thing is certain:

In the great majority of cases, they result from lubrication failure—dirt in the oil, sludges due to moisture, impurities in the oil itself, and/or substances or liquids that get into the system by accident or are put in a misguided attempt to remove moisture, "neutralize acidity," or locate leaks.

Even though the oil is clean and of the proper grade and quality, and free of contaminating foreign matter, there may not be enough of it; the crankcase oil level may be low, and as a result, not enough oil is splashed up to the bearings, pins, pistons, and other frictional parts to afford adequate lubrication. Consequently, excessive wear occurs, and the heat produced galls these parts and causes them to stick and bind.

When the system was originally installed, it may not have had oil added to replenish the oil from the crankcase that was absorbed by the refrigerant in the system. Possibly a seal leak or other leak caused the

loss of oil that resulted in the low oil level in the compressor.

Perhaps liquid refrigerant came back to the compressor, or condensed there during the off cycle. In either case, the oil was so thinned that its lubrication value was insufficient, and a tight compressor was the result.

TIGHT BELTS

V-belts need not be tight if the drive is properly designed and applied. A V-belt pulls from the two sides of the belt; not from the bottom. The slight tension due to the sag of the slack of the belt should be all that is necessary.

If the motor pulley is very small, or if it is so close to the compressor pulley that the belt touches only about one third or less of the circumference of the grooves of the motor pulley, the belt will have to be pulled very tight in order to keep it from slipping.

The smallest diameter motor pulley that should be used with a V-belt depends upon the size of the belt itself, the arc of the pulley in contact with the belt (this is governed by the distance between the centers of the pulleys and their diameters) and the amount of horsepower to be transmitted.

If it is necessary to pull the belts taut in order to keep them from slipping, they are too tight. There are several "rule-of-thumb" methods for determining the proper tightness of a V-belt. One is that it can be twisted a quarter-turn between the thumb and forefinger; another is that the slack part between the pulleys can be moved up and down as much as about 1/2 in.

If the belts must be too tight to keep them from slipping:

(1) Move the motor and the compressor farther apart, and use a longer belt, so as to increase the arc of contact of the belt to the motor pulley. However, it is not

often that the unit base is long enough to allow the motor and compressor to be moved far enough apart to have sufficient effect.

(2) Change the motor and compressor pulleys to the two-groove type (or to pulleys having one more groove if they already have more than one groove) but having the same diameters. The extra belt will increase the amount of power that can be transmitted, even with the small motor pulley diameter.

HIGH DISCHARGE PRESSURE

The load that a compressor puts on the motor driving it, varies according to the discharge pressure. As the discharge pressure rises, the load on the motor rises; as the discharge pressure (or condensing pressure as it is also called) gets lower, the load on the motor drops off.

A high discharge pressure forces the piston to raise the compressed gas in the cylinder to a higher pressure before it can lift the discharge valve and flow over into the condenser. This does more work and takes more power, and this added power and work must come from the motor.

Reducing the condensing pressure in a water-cooled condenser can be accomplished by:

(1) Readjusting the water control valve to pass more water. It is not often practical to operate with a water temperature leaving the condenser of much over 105°. Discharge pressures of about 100 to 110 p.s.i.g. for methyl chloride and about 115 to 125 p.s.i.g. for "Freon" will ordinarily just about balance operating costs between water cost and electricity cost.

SCALE CUTS HEAT TRANSFER

(2) Cleaning the water tubes of the condenser. They may have become encrusted with scale or muddy slime. These restrict the amount of water that can pass through at the impressed water pressure. Consequently, the water gets hotter and thus raises the condensing pressure. Moreover, the deposit insulates the water from the refrigerant and thereby reduces the rate of heat transfer; this is equivalent to reducing the size of the condenser.

(3) Cleaning the water control valve; it may be partially stopped.

(4) Increasing the water pressure to the condenser. In some localities the water pressure is very low. There is not much that can be done about this short of putting on a booster pump in the water supply line, but if the water pressure fluctuates, a pressure regulating valve may be put in the water inlet line to the condenser and set for about the minimum water pressure. This gives smoother operation of the water control valve.

WATER-COOLED CONDENSERS MAY NEED VENTILATION

(5) Getting more ventilation over the condenser. Water-cooled condensers depend mostly on the water for cooling, but some of them, especially the double tube, coil type, depend to some extent on their air-cooling effect and thus require some ventilation. Keep water-cooled condensers wiped off and free of dust that reduces the amount of heat that they can radiate to the air.

(6) Getting cooler inlet water. Sometimes this can be done by switching from water from the city mains that may be close to the surface of the ground and thus warmed a good deal before it gets to the condenser, to water from a deep well or similar source of cooler water.

In some locations it may be necessary to put in a water tower in order to get enough cool water to keep the discharge pressure down to normal.

(7) Replacing the condenser with a larger one. The condenser may have been too small in the first place. Or possibly the compressor has been speeded up and even a larger motor put on so as to get increased capacity, but without making any

change in the capacity of the condenser.

In some areas it may be found advisable to replace the water-cooled condenser with an evaporative condenser.

Reducing the condensing pressure in an air-cooled compressor can be done by:

(1) Cleaning the condenser of dust, lint, or other material that reduces the airflow through it and, by insulating it, reduces the rate of heat transfer, which, as previously mentioned in connection with water-cooled condensers, is equivalent to reducing the size of the condenser.

(2) Increasing the airflow through the condenser. The amount of air may have been reduced by putting the condenser too close to the wall and thus causing a "high static" pressure beyond the condenser; or piling boxes or other objects around the condenser, cutting off air circulation and causing the hot air from the condenser to be recirculated back through the condenser before it has a chance to diffuse into the other air and to become cool enough for reuse.

The fan may be running backward. This can happen with a repulsion-induction, single-phase motor or a three-phase, squirrel-cage motor. Or someone may have put the fan on backward, or put on too small a fan, or bent the blades too flat.

If the fan became loose and damaged the condenser, the fins may have been bent over, thus keeping air from being blown through the condenser.

All of these things would reduce the amount of air through the condenser, and as a result, cause an abnormally high condensing pressure.

(3) Getting cooler air to the con-

denser. In small rooms it is sometimes necessary to take some air from the outside through a window or a special duct.

(4) Putting on a larger condenser. As in the case of the water-cooled condenser, the capacity of the compressor may have been increased without correspondingly increasing the size of the condenser and/or the amount of air through the condenser.

(5) Replacing the air-cooled condenser with a water-cooled or evaporative condenser. In some areas this is often necessary, especially in the case of the larger units.

In some instances, the service engineer has run a small tube pierced with small holes about an inch apart, along the top of the fins of the air-cooled condenser. Water is fed to this tube through a water control valve actuated by condensing pressure, and set to open and run water on the fins if, and when, the condensing pressure becomes excessive.

The water evaporating on the hot fins absorbs heat and very considerably increases the capacity of the condenser, which in turn reduces the discharge pressure.

(To Be Continued)

INVENTORY BALANCING SALE

Lowest prices ever advertised on nationally-known new Koch Reach-Ins:

42 cu. ft. Reach-ins	\$410
65 cu. ft. Reach-ins	499
25 cu. ft. Stainless Steel	440

Glass doors and ice-cube makers also available.

MCCUNE & COMPANY, INC.
Youngstown 9, Ohio

Last year... in a single 30-day test—
3,300 people wrote,
**"WHERE CAN
WE FIND IT?"**

**8 out of 10
BOUGHT**

the new
FRESH'ND-AIRE

ROOM CONDITIONER AND HUMIDIFIER... \$59.50

1. Moisturizes the air correctly.
2. Cleans, washes air; filters out dirt, dust, smoke, pollen.
3. Provides greater comfort at lower room temperatures. Cuts heating costs.
4. Circulates air—without drafts.
5. Simple, sturdy, trouble-free. No servicing headaches!

**and this season will
be even bigger!**

Last year, the first national ads appeared—and then WHAM!—thousands of customers wanted the protection for health and home furnishings offered by Fresh'nd-Aire Room Conditioner and Humidifier.

In one month, 3,300 people who could not locate Fresh'nd-Aire Humidifiers at their dealers—wrote Fresh'nd-Aire direct. More than 80% of these inquiries resulted in sales.

Don't "miss the boat" this season. Powerful advertising in *The Saturday Evening Post* and *House & Garden* will bring customers to you this year!

Mail
Coupon

FRESH'ND-AIRE COMPANY

A division of Cory Corporation • 221 N. LaSalle St., Chicago 1, Ill.
Export Sales: The A. J. Alsdorf Corp., Chicago 1, Ill.

FRESH'ND-AIRE COMPANY
Dept. ACN 108, 221 N. LaSalle St., Chicago 1, Ill.

Please rush full details of new Fresh'nd-Aire Room Conditioner.

☐ Have representative call ☐ Just mail information ☐ Send complete advertising package

Name.....

Address.....

City..... State.....

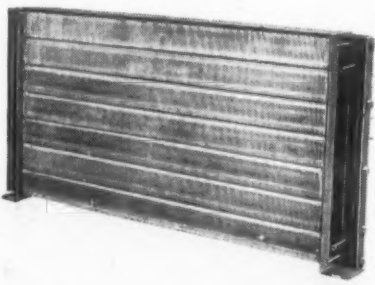


BY NEW HEAT-X-CHANGER COMBINATION AIR AND WATER COOLED CONDENSERS

When air cooling of refrigeration condensers takes a summer vacation water cooling automatically takes over as a temporary worker.

The new Heat-X-Changer Combination Air and Water Cooled Condenser now makes available the capacity and performance advantages of the water-cooled condensing unit combined with the economy of operation of the air-cooled unit.

The air surface is sufficient to carry the load until the air temperature available rises above 80°F. Then the water valve opens to admit the minimum amount of water necessary to keep the compressor head pressure at the desired point. This means a 94% saving of water every year.



Here indeed is a compact, readily adaptable condenser of attractive appearance which is economical to install and to operate. It has cleanable water tubes, too!

Write for literature on this amazing new 2-in-1 unit.

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N. Y. Brewster, N. Y.

'Task Committee'--

(Concluded from Page 1, Column 4)
very quickly in the event of a national emergency. It will be recalled that there was considerable criticism of the fumbling of the last industrial mobilization.

In the meeting this week the task committee will review limitation orders used in World War II, summarize the current situation in the industry, recommend action to be taken by the industry in the event of a national emergency, and recommend personnel for a governmental staff to deal with the industry.

It was learned that those invited to attend the task committee meeting include John Hertzler, York Corp.; Frank Faust, General Electric air conditioning and commercial refrigeration department; C. V. Hill, Jr., C. V. Hill & Co.; W. H. Aubrey, Frick Co.; E. M. Flannery, Bush Mfg. Co.; H. F. Spoehrer, Sporlan Valve Co.; George Allen, Kerotest Mfg. Co.; Emil Steinhorst, Emil Steinhorst & Sons, Inc.

H. F. Smiddy Elected Vice President of G-E

BLOOMFIELD, N. J.—Harold F. Smiddy has been elected a vice president of the General Electric Co. by the board of directors.



Harold F. Smiddy

Smiddy continues as general manager of both the company's air conditioning and chemical departments. A former partner in the firm of Booz, Allen, and Hamilton, industrial management consultants, Smiddy joined General Electric last March as a member of the president's staff. He was appointed general manager of the chemical department at Pittsfield, Mass., in July and three months later was given additional duties as general manager of the air conditioning department.

Smiddy has served as a director and head of the operating and sales department of Ebasco Services, Inc. Earlier he was an executive of Electric Bond & Share Co. and operating manager of the West Penn Power Co.

Heads York Promotion



Garceau Appointed--

(Concluded from Page 1, Column 2)
years in the appliance, radio, and television industry includes acting in a similar capacity with the Crosley Corp. and the Fairbanks-Morse home appliance division.

Garceau also served as an advertising and sales promotion executive for Kelvinator over a period of 10 years prior to joining Fairbanks-Morse.

Fedders 1949 Line--

(Concluded from Page 1, Column 4)
60-cycle or 230-volt, 50-cycle single-phase motors. The ½-hp. window models are available with 115-volt, 60-cycle single-phase motors.

Construction features of the Fedders line include many "twin" parts. Twin evaporators provide greater cooling area, twin filters improve air cleaning, the two-cylinder compressor affords greater refrigerating effect, and the double-row condenser steps up cooling efficiency.

Other features include a large circulating fan, full width, full height bulkhead, sling-o-ring fan which picks up moisture that drains off the evaporators and provides an "evaporative condenser" effect; rotatable grille, 3-way switch, and built-in track cabinets.

Servicemen Ruling--

(Concluded from Page 1, Column 3)
stoves, the simplest of the appliances, whereas several years of experience may be necessary in the case of refrigerator repairmen.

"But there is no standard, recognized training or apprenticeship period for appliance servicemen. They do not qualify as journeymen electricians or machinists, so as to constitute a recognized craft.

"As they are not skilled craftsmen, and as they have in fact received the benefits of the contract covering the over-all unit indicated above, we find that they would not constitute appropriate separate units for collective bargaining."

Ed Kellie To Discuss Oil Separators for Detroit RSEs

DETROIT—Oil separators will be subjected to a panel discussion by Ed Kellie of Aminco Refrigeration Products Co. and Earl Jennings of Temprite Products Corp. at the next meeting of the Greater Detroit chapter of the Refrigeration Service Engineers Society to be held at 7:30 p.m. Thursday, Jan. 13, at the Rackham building.

Crosley Models--

(Concluded from Page 1, Column 2)
an "everdry storabin" with 1.53-cu. ft. capacity.

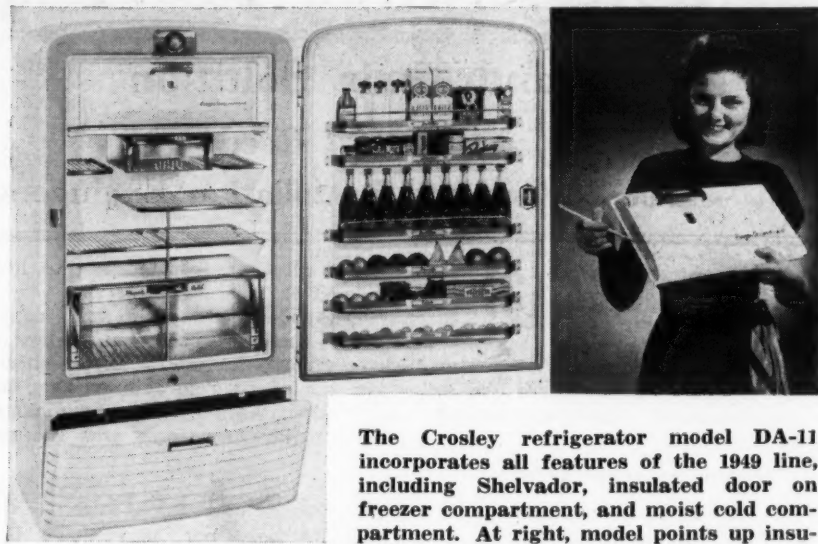
Maximum shelf flexibility is provided by lift-out and sectional shelves. Other features include oversized door hinges, porcelain enamel interior with acid-resisting bottom, reverse crimp flange cabinet construction for extra strength, and the Crosley "Electrosaver" unit which is hermetically sealed, permanently oiled, and warranted for five years.

Cabinet dimensions on the largest models, EA-11, DA-11, and MA-11 are 65½ in. high, 33½ in. wide, and 25½ in. deep.

Dimensions for the 7-cu. ft. model, EA-7, are 55 in. high, 24½ in. wide, and 24½ in. deep.

The remaining four models, MA-9, DA-9, EA-9, and SA-9, are 61¼ in. high, 30¾ in. wide, and 25½ in. deep.

One of Shelvadors for Coming Year

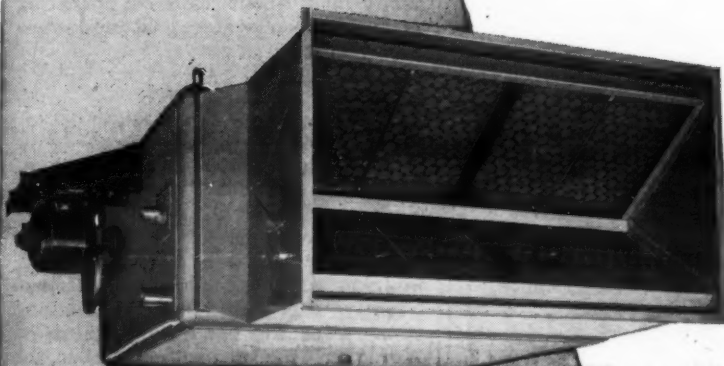


The Crosley refrigerator model DA-11 incorporates all features of the 1949 line, including Shelvador, insulated door on freezer compartment, and moist cold compartment. At right, model points up insulation in the freezer compartment door.

Comparison Chart for Crosley Model Features

Model	Capacity (Cu. Ft.)	Evaporator (Type)	Evaporator Capacity (Lbs. Food)	"Moist Cold" Compartment	Crispers	Storabin (Cu. Ft.)	Shelf Area (Sq. Ft.)	Dimensions High	Wide	Deep	Unit (Hp.)	Suggested Retail Price
DA-11	10.5	Horizontal	50	Yes	1	1.53	19.78	65½	33½	25½	¼	\$409.95
MA-11	10.5	Horizontal	50	No	2	1.53	20.25	65½	33½	25½	¼	369.95
EA-11	11.2	U-Type	25	No	1	None	21.02	65½	33½	25½	¼	299.95
DA-9	8.5	Horizontal	50	Yes	1	1.53	15.18	61¼	30¾	25½	¼	379.95
MA-9	8.5	Horizontal	50	No	2	1.53	15.53	61¼	30¾	25½	¼	339.95
SA-9	9.1	U-Type	25	No	2	1.4	16.93	61¼	30¾	25½	¼	299.95
EA-9	9.1	U-Type	25	No	1	None	16.28	61¼	30¾	25½	¼	269.95
EA-7	7.0	U-Type	20	No	....	None	14.65	55	24½	24½	¼	229.95

Air Conditioning WILL HELP YOU MAKE A

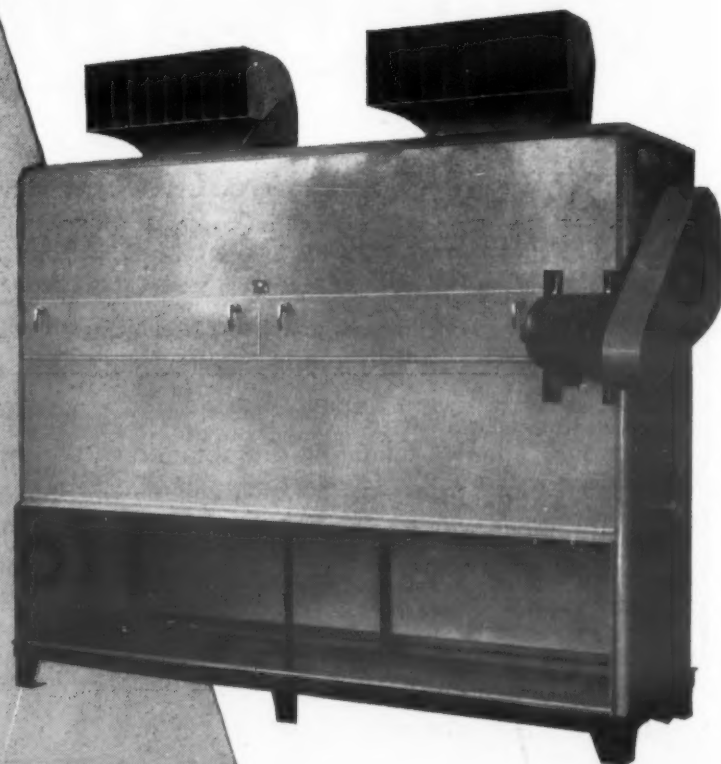


COOL MILLION

We're talking in units of products and people, of course... not dollars.

But the dollars will do all right, too.

Air conditioning pays off... particularly when you specify these high-capacity, high-efficiency units by BUSH, pioneers in the heat transfer field since 1907. Low speed motors for long, trouble-free service. Low velocity fans for quiet, efficient operation. Expertly engineered and built of top-quality materials to rigid specifications. Designed for easy installation and ready access.



Write DEPT. C2 for the new folder describing BUSH Air Conditioning Units with complete engineering data to help you plan and specify.



BUSH MANUFACTURING CO. • WEST HARTFORD 10, CONN.

HEAT TRANSFER PRODUCTS

alive with **STYLE!**



MODEL 110

Amana

FREEZERS • REFRIGERATORS

Say "yes" to every prospect with the complete, smartly styled, better-built Amana line. Write: Refrigeration Division—

AMANA SOCIETY, AMANA, IOWA

Wall WIRE PRODUCTS COMPANY

Manufactures of...

REFRIGERATOR SHELVES • STAMPINGS
FORMED AND WELDED PRODUCTS



Year after year grows the volume of
Stainless Steel Refrigerator Shelves.

WALL WIRE PRODUCTS COMPANY Plymouth, Michigan